For PLANNERS, DESIGNERS, OWNERS, RESEARCHERS, and CONTRACTORS on the frontline, constantly challenged to construct and rehabilitate runways and highways that are durable, smooth, quiet, efficient, cost-effective, and capable of supporting projected traffic operations... all the while cognizant of the owner’s need to minimize closures during construction and to minimize future rehabilitation work.
We invite you to come to Atlanta for the 2006 T&DI Airfield and Highway Pavement Specialty Conference to explore “Meeting Today’s Challenges with Emerging Technologies.”

Keeping up with the challenges of the airfield and highway pavement industries requires insight into emerging technologies and their implementation. This conference is designed to transfer vital knowledge that keeps you current with cutting-edge technological improvements in the field.

Attend seven technical sessions with five specialty tracks featuring some 100 presentations, and three workshops, two of which will be offered twice for your convenience. In day-long sessions, a team of FAA experts will introduce the new “FAA Design Software for Airport Pavement Thickness Workshop,” explaining the basics of FAARFIELD and covering changes to LEDFAA1.3. In repeat sessions, you will have the opportunity to attend the “Mechanistic-Empirical Pavement Design Guide (MEPDG) Workshop,” which will introduce a new approach to the design of asphalt and concrete pavements and overlay, and the popular “Back-to-Basics Workshop”, which will provide both experienced and new pavement engineers with a complete overview of asphalt and concrete materials, design and construction processes.

Earn up to 22 nationally recognized Professional Development Hours.

On behalf of the entire Steering Committee, I invite you to join your colleagues at the 2006 T&DI Airfield and Highway Pavement Specialty Conference for a rewarding professional experience and an opportunity to tour the most important runway project underway in America, the landmark 9,000-foot Fifth Runway at the Hartsfield-Jackson Atlanta International Airport, with its glimpse into the future of airfield pavement design and implementation!

GARY MITCHELL, P.E., CONFERENCE CHAIR
Director of Airports
American Concrete Pavement Association
Southeast Chapter, Charlotte, NC

CONFERENCE SPONSORS

PLATINUM LEVEL ($5,000 - $9,999)
Roadway Infrastructure Group of the Virginia Tech Transportation Institute (VTI), the Virginia Transportation Research Council (VTRC), and the Virginia Department of Transportation (VDOT)
www.vtti.vt.edu
http://vtrc.virginiadot.org/

GOLD LEVEL ($2,000 - $4,999)
Center of Excellence for Airport Technology (CEAT)
http://cee.uiuc.edu/research/ceat

SILVER LEVEL ($1,000 - $1,999)
Crawford, Murphy & Tilly, Inc.
www.cmteng.com

BENEFACCTOR LEVEL ($500 - $999)
American Concrete Pavements Association
Asphalt Pavement Alliance
Delta Airport Consultants, Inc.

PATRON ($499 and under)

Sponsorship Opportunities Available!
Put your company out front among pace-setters of the pavements industry by sponsoring conference activities and events, including the Dinner Event and Refreshment Breaks. For information, please contact Marcia Saumweber at 703-295-6347 or msaumweber@asce.org.

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Atlanta Preview

Construction of Runway 10-28, the legendary Fifth Runway at the Hartsfield-Jackson Atlanta International Airport, will be approaching completion at the time of the 2006 T&DI Airfield and Highway Pavement Conference. It is due to be commissioned in Summer 2006. The new Fifth Runway is one of the most complex structures of its kind in the world. It is also the first design/build project of its size and complexity in the State of Georgia, the first tunnel in the State of Georgia as defined by NFPA 502, and the first Runway Bridge of its span length in the world.

The new runway will span across an interstate highway of 18 lanes (12 mainline and 6 collector-distributor roads) on a structure sturdy enough to simultaneously bear a 1.33-million-pound Airbus A380 and 1.04-million-pound Boeing 747.

In addition to getting a glimpse of this unprecedented pavement project, conference attendees will have the opportunity to experience Atlanta’s classic Southern hospitality in a modern, big-city setting. While you’re in town, plan to visit locations connected to civil rights and the Civil War, take a CNN studio tour, or explore Underground Atlanta’s unique shopping and dining spots, local history, and frequent special events. Don’t fail to arrange a trip to the new Georgia Aquarium, which opened in November 2005 with more than 5 million gallons of water and more than 55,000 fish!

Interested Engineering Students are highly encouraged to attend the 2006 T&DI Airfield and Highway Pavement Specialty Conference! Student attendees can expect insightful technical sessions and several prime opportunities to network and gain career tips from seasoned professionals in the field. Full-time students are offered admission at affordable rates.

Stay with us…

at the official Conference hotel!

Westin Atlanta Airport Hotel
4736 Best Road • Atlanta, GA 30337

The Westin Atlanta Airport Hotel is conveniently located next to Hartsfield-Jackson Atlanta International Airport at major interstates I-85 and I-285. Eight miles from downtown Atlanta, this full-service hotel offers spacious guest rooms, a variety of quality dining options, and more than 22,000 square feet of function space. The hotel offers complimentary 24-hour shuttle transportation – both to and from the airport and to the Hartsfield MARTA rail terminal, and BAGS, a unique airport skycap service located in the hotel lobby.

For hotel reservations, call 888-627-7211 or 404-762-7676.

For special conference rates, reserve by April 7 and mention that you’re attending PAVEMENTS 2006!

Rates:
- Single/Double $115.
- Triple $135.
- Quad $155
(Plus 13% tax.)

Earn up to 22 nationally recognized Professional Development Hours (PDHs)!

Please note that there are differences from state to state in continuing education requirements for professional engineering licensure. Each state registration board has the final authority to approve courses, credits, and professional development hours for courses, and other methods of earning credit in that state. ASCE strongly recommends that individuals regularly check with their state registration boards for specific continuing education requirements in their jurisdictions that affect professional engineering licensure and the ability to renew licensure.

Conference Proceedings will be published and available at the Conference. Full Conference Registrants will receive a copy of the proceedings at the Registration Desk. Additional copies may be ordered in advance on the registration form. Please see page 9.
Workshops

New FAA Design Software for Airport Pavement Thickness Workshop

In 2006, the FAA will introduce a new software program for airfield pavement design, called FAARFIELD (FAd A Rigid and Flexi Ia tive E Iastic L ayered D esign). The FAA will conduct this one-day training workshop to help airport pavement engineers as well as airport owners/operators become familiar with this new program and changes to the FAA’s LEDFAA 1.3 design program. The workshop will include lectures, discussions, and demonstrations.

INSTRUCTORS:
Satish K. Agrawal, Ph.D., and David R. Brill, Ph.D., P.E., Airport Technology R&D Branch, Williams H. Hughes Technical Center, FAA
Rodney Joel, P.E., FAA Airport Engineering Branch
Navneet Garg, Ph.D., Izydor Kawa, Ph.D., and Lia Ricalde, SRA/Galaxy Inc.

Mechanistic-Empirical Pavement Design Guide (MEPDG) Workshop

The MEPDG is a new design approach that is based on fundamental engineering principles and calibrated with extensive field performance data. This workshop will provide a comprehensive overview and several illustrative examples of the design of asphalt and concrete pavements and overlay. It will offer ample time for discussion and questions. Each participant should bring a laptop to take part in the example design projects.

INSTRUCTORS:
Michael I. Darter, Ph.D., P.E., former Professor of Civil Engineering, University of Illinois and Principle Engineer, ARA, Inc.
Harold Von Quintus, P.E., Principal Engineer, ARA, Inc.
Halil Ceylan, Ph.D., Assistant Professor, Iowa State University and PCC Engineer, Center for Portland Cement Concrete Pavement Technology at Center for Transportation Research and Education, Ames, IA

Dr. Darter and Mr. Von Quintus were part of the six-year MEPDG development team and are internationally recognized authorities in pavement design. Dr. Ceylan was part of MEPDG’s TRB/NCHRP independent evaluation team and Iowa DOT implementation team.

Back-to-Basics Workshop

The “Back-to-Basics” Seminar has been a very popular feature of past Airfield Pavement Specialty Conferences. It provides you, the design professional, with a complete overview of both asphalt and concrete pavement materials, design, and construction. It offers opportunity for young engineers and others new to the airfield industry to get the most up-to-date industry information available, as well as to network and share information with others in attendance. This is a must-attend for engineers looking to build solid careers in the airfield industry!

Back-to-Basics – Asphalt Pavement

The Asphalt Pavement portion of the workshop will address the fundamentals of asphalt technology materials, design, and construction, including the principles of the Superpave system and performance-graded asphalt binders; the basics of production, transportation, placement, and compaction of hot-mix asphalt with an emphasis on QC/QA methodology. It will also provide an overview of state-of-the-practice maintenance and rehabilitation techniques.

INSTRUCTOR:
Mike Huner, P.E., District Engineer, Asphalt Institute, Franklin, TN

Back-to-Basics – Concrete Pavement

The Concrete Pavement portion of the workshop will cover the fundamentals of concrete pavement technology related to materials, design, and best construction practices. Topics will include discussions on material selection for concrete pavement mixtures, pavement jointing details, the effects of base material type selection on pavement design, and the latest research on alkali-silica reaction (ASR) and mitigation.

INSTRUCTORS:
American Concrete Pavement Association Technical Staff

Conference Essentials

Car Rental Discounts
Conference attendees may receive car rental discounts by contacting Hertz and providing the appropriate codes:
Codes: CDP# 11381 and PC# 579731

Local Weather
Atlanta’s April-May weather is mild, with average daily highs in the upper 70s and lows in the upper 50s.

Conference Dress Code
Business casual.

Refreshment Breaks
Complimentary coffee and soft drink service will be available between sessions in the Exhibit Hall.

Speakers’ Preparation Room
All presenters and moderators are required to register and pay appropriate fees for the 2006 T&D Airfield and Highway Pavements Specialty Conference. A Speakers’ Preparation Room will be available beginning Monday, May 1 at 8:00 AM and run for the duration of the Conference. Some audiovisual equipment will be available for rehearsing; however, no LCD panels will be provided in this room.
Icebreaker Reception

SUNDAY, APRIL 30 • 6:00 PM - 7:30 PM
Say “Hi!” over beverages and a bite to eat, and get yourself rolling into the spirit of this conference! Network and meet industry colleagues from around the world. Introduce yourself to our exhibitors, who are leading vendors and service providers who could become invaluable resources for your upcoming jobs.

Included in Full and Student Registrations. Additional tickets: $55.

Sponsored by:
Roadway Infrastructure Group of the Virginia Tech Transportation Institute (VTTI), the Virginia Transportation Research Council (VTRC), and the Virginia Department of Transportation (VDOT)

Opening Plenary Session

MONDAY, MAY 1 • 8:30 AM - 10:00 AM
Attend the Opening Plenary prior to the Technical Sessions for a brief orientation to help you focus on conference details for the days ahead. Get revved to derive the greatest benefit from your participation in conference events.

Sponsored by:
Center of Excellence for Airport Technology (CEAT)

Lunch in the Exhibit Hall

MONDAY, MAY 1 • 12 NOON - 1:30 PM
Have your lunch and allow time to network with colleagues and stroll among the exhibitors.

Included in Full, Student, and Monday-Daily Registrations. Additional tickets: $45.

TOUR: Runway 10-28, Hartsfield-Jackson Atlanta International Airport

TUESDAY, MAY 2 • 1:00 PM - 5:00 PM
Don’t miss this up-close technical tour of the 9,000-foot Fifth Runway under construction at the Hartsfield-Jackson Atlanta International Airport. Known as “the most important runway project in America,” this $1.284 billion project, which covers 920 acres of land and includes 18,000 feet of taxiways, will be nearly complete at the time of the Conference. It is expected to save the airline industry on estimated $260 million yearly by eliminating costly delays at the world’s busiest passenger airport.

Designed to span I-285, the runway project required moving more than 18 million cubic yards of earth fill from onsite borrow pits by means of a 5.5-mile long conveyor belt and discharge bin system, and the construction of a full-length parallel taxiway and dual north/south taxiways.

The new taxiway bridge spanning the Interstate is of particular interest. It is the first design/build project of its size (1264 LF) and complexity in the state of Georgia; the first tunnel in the State of Georgia; the first tunnel in the State of Georgia defined by NFPA 502; and the first runway bridge of its length in the world. When opened, I-285’s capacity will have grown from 10 lanes to 18.

Tour is free, but registration is required.
Please see page 9.

Dinner Event

TUESDAY, MAY 2 • 6:00 PM - 8:00 PM
Please join us for a congenial dinner event. Following a very busy day, there will be lots to share with colleagues and discussions will be brisk. A noted speaker will round out the agenda.

Included in Full and Student Registrations. Additional tickets: $60.
### Technical Program

#### SUNDAY, APRIL 30, 2006
- 9:00 AM – 4:30 PM: FAA Design Software for Airport Pavement Thickness Workshop
- 1:00 PM – 5:00 PM: Mechanistic-Empirical Pavement Design Guide (MEPDG) Workshop
- 1:00 PM – 5:00 PM: Back-to-Basics Workshop
- 6:00 PM – 7:30 PM: Icebreaker Reception in the Exhibit Hall

#### MONDAY, MAY 1, 2006
- 8:30 AM – 10:00 AM: Opening Plenary Session
- 10:00 AM – 10:30 AM: Coffee Break

#### 10:30 AM – 12 NOON: Technical Sessions I

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<td>David K. Merritt, Samuel S. Tyson</td>
<td>Haifong Wen, Han Tilt, Darrell Berry</td>
<td>A. Meda, G.A. Pizzoni, L. Sorelli</td>
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<td>E. Heymsfield, R.E. Wahl, W. Hodo</td>
<td>Ty C. Sander, Jeffery R. Roesler</td>
<td>David R. Johnson, N. Mike Jackson, Timothy M. Sauer</td>
<td>Pyeong Jun Yoo, Imad L. Al-Qadi</td>
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#### 12 NOON – 1:30 PM: Lunch in the Exhibit Hall

#### 1:30 PM – 3:00 PM: Technical Sessions II

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#### 3:00 PM – 3:30 PM: Refreshment Break
### Monday, May 1, 2006

**3:30 PM - 5:00 PM  TECHNICAL SESSIONS III**

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### Tuesday, May 2, 2006

**8:30 AM - 10:00 AM  TECHNICAL SESSIONS IV**

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<td>Characterizing Early-Age Properties of Lithium-Treated Concrete Mixtures 14329</td>
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**7:00 PM – 9:00 PM Committee Meetings**

**10:00 AM – 10:30 AM Coffee Break**
TUESDAY, MAY 2, 2006

10:30 AM – 12 NOON  TECHNICAL SESSIONS V

TRACK 1

Concrete Pavement Material Characterization

High Volume Fly Ash Concrete for Pavement Applications with Gap Graded Aggregates: Marginal and Fine Sands

Chetan Hazeere, Halil Oeytan

Optimizing Mix Proportions for Durable Roller-Compacted Concrete Pavement Applications in Indian Conditions

Chetan Hazeere, Halil Oeytan, Kejin Wang

Selection of Design Factors for the Use of Gravel in CRC Paving

Juanyu Liu, Anal K. Mukhopadhyay, Dan G. Zollinger

Pavement Nondestructive Evaluation

FWD Determination of the In-Situ Subgrade Resilient Modulus and Effective Structure Number of Virginia’s Interstate Network

Khaleed Galal, Brian Diefenderfer, Javed Alam, Thomas Tate, Michael Wells

Demonstration of Seismic and Maturity Testing Technologies at Aurora Municipal Airport

Sohel Nazarian, Daren Yuan, Kurt Smith, Jim Brunnino

Network-Level Pavement Structure Assessment Using Automated Processing of Ground-Penetrating Radar (GPR) Data

Kim Chen, John Whitman, Amanda Elioff

Concrete Pavement

Alkali-Silica Reaction

Case Study: Using Lithium Nitrate to Arrest Alkali-Silica Reaction in an Existing Concrete Pavement

Michael T. Kelly, Christopher Y. Yuan

An Investigation into Alkali-Silica Reaction in Concrete Pavements at Hartsfield-Jackson Atlanta International Airport

P.R. Rangaraju, R. Todmalla, S. Kuchukilla, Q. Watkins

Evaluation of Alkali-Silica Reaction Potential of Aggregate Using Dilatometer Method

Evolve Tandon, Issac Puentes

Pavement Tack Coat Evaluation

Evaluating Tack Coat Applications and the Bond Strength between Pavement Layers

Randi C. West, Jason R. Moore, Jingtao Zhang

Development of a Portable Device to Measure Tack Coat Quality in the Field

Vivek Tandon, Issac Puentes

HMA and Special Mixes

Preparing High Modulus Asphaltic Concrete Mixtures

Lal Mohm

Advanced, Modern, and Innovative Technologies Used at the Houston Airport System (Polyethylene Additive)

Adil Godiwalla

Digital Simulative Rutting Test for Asphalt Pavement Analyzer

Yongping, Linbing Wang

Pavement Instrumentation II

Unbonded Concrete Overlay Research for Airfields at the FAA National Airport Pavement Test Facility

J.W. Monk, S.M. Stoffels, D.A. Morian, A.M. Ioannides, S.S. Wu

Instruments and Accelerated Testing on Louisiana Flexible Pavements

Zong Wu, Zongji Zhang, Bill King, Amar Raghavendra, Mark Martinez

Measured and Theoretical Pressures in Base and Subgrade Layers under Dynamic Track Loading

W. Immanuel, D.H. Timm

12 NOON – 1:00 PM Lunch in the Exhibit Hall

1:00 PM – 5:00 PM TECHNICAL TOUR

1:00 PM – 5:00 PM MECHANISTIC-EMPIRICAL PAVEMENT DESIGN GUIDE (MEPDG) WORKSHOP

6:00 PM – 8:00 PM DINNER EVENT

10:30 AM – 12 NOON  TECHNICAL SESSIONS VII

TRACK 1

Pavement Economics

A Cost-Effective Mixture for Concrete Pavements

I. Papadopoulos, E. Anastasiou

Estimation of the Effects of Influential Factors on Pavement Service Life with Cox Proportional Hazard

Jiansong Yu, Eddie Y.J. Chou, Jyh-Tying You

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Y. Richard Kim, S. Joen Lee, Omar El-Haggan

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Brian K. Diefenderfer, James W. Bryant, Jr.

Rigid Pavement Curling and ASR

Prediction of Moisture Curling of Concrete Slabs for Airfield Applications

D.A. Lange, C.J. Lee, Y. Liu

Curling and Curling Stresses of New Concrete Pavements

Zahidul Siddique, Mostaque Hossain, Dave Meggers

A Lab Study on the Potential of Potassium Acetate Deicer to Induce ASR in Concrete, and Its Mitigation

P.R. Rangaraju, K. Sompuj, J. Desai, J. Oke

HMA and Special Mixes

Non-Nuclear Density Gauge Comparative Study for QC/QA in HMA Construction

Y. Liao, S. Sargand, S. Kim

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