Day 1 - Tuesday, June 30, 2009 – 5/25 version

8:00 AM Registration and Exhibits Open

9:00 AM - 12:00 PM Opening Plenary Session

Opening Remarks by Erol Tutumluer and Imad Al-Qadi

Keynote Presentation on Roads: “Recent and landmark improvements in performance characterization of unbound aggregate bases and subbases and sublayers comprised of Chemically Stabilized Materials (CSMs)”
by Professor Dallas N. Little
Texas A&M University, Texas, USA

Keynote Presentation on Railways: “The performance of rail track incorporating the effects of ballast breakage, confining pressure and geosynthetic reinforcement”
by Professor Buddhima Indraratna
University of Wollongong, Australia

Keynote Presentation on Airfields: “Airport pavement design for the 21st century”
by Dr. Satish K. Agrawal
Federal Aviation Administration, William J. Hughes Technical Center, New Jersey, USA

12:00 PM-1:30 PM Lunch at Exhibit Hall
1:30 PM-3:15 PM Technical Track 1

Concurrent Session 1A: Subgrade Soils

Precision triaxial equipment for the evaluation of the elastic behavior of soils
*N. Araújo & A. Gomes Correia*

A comparative subgrade evaluation using CBR, vane shear, light weight deflectometer, and resilient modulus tests
*N. Garg, A. Larkin & H. Brar*

The effect of moisture hysteresis on resilient modulus of subgrade soils
*C. Khoury & N. Khoury*

Dynamic properties of a full weathering granite subgrade and other pavement materials studied by model tests
*J. Zou, Z. Li & X. Cao*

Concurrent Session 1B: Granular Materials

Pavement base unbound granular materials gradation optimization
*J.P. Bilodeau, G. Doré & P. Pierre*

Effect of grading and moisture on the deformation properties of unbound granular aggregates
*L.U. Mathisen*

IDOT test loop: evaluating the field performance of various dense graded aggregates
*G. Heckel*

Characterizing aggregate permanent deformation behavior based on types and amounts of fines
*D. Mishra, E. Tutumluer, J. Kern & A. Butt*
Concurrent Session 1C: Asphalt Mixtures

Contribution of asphalt mix components to permanent deformation resistance
P.M. Muraya, A.A.A. Molenaar & M.F.C. van de Ven

Fatigue resistance of hot mix asphalt at low temperatures
- Is there a way to reduce the test efforts?
K. Mollenhauer & M. Wistuba

Discrete element analysis of aggregate variability, blending, and fracture in asphalt mixture
E. Masad, E. Mahmoud & S. Nazarian

Long-term study on asphalt mixture segregation in Connecticut: preliminary results on use of MTV
D.J. Nener-Plante & A. Zofka

Concurrent Session 1D: Railroad Track Structures I

Pressure measurements and structural performance of hot mixed asphalt railway trackbeds
L.S. Bryson & J.G. Rose

Effects of incorporating a bituminous subballast layer on the deformation of railway trackbeds
T. Ferreira, P.F. Teixeira & R. Cardoso

An innovative slab track test-line in China
J. Ren, R. Xiang & B. Lechner

Comparison of in situ performance-based tests methods to evaluate moduli of railway embankments
A. Gomes Correia, J. Martins, L. Caldeira, E. Maranha das Neves & J. Delgado

3:15 PM-3:45 PM Break at Exhibit Hall
3:45 PM-5:30 PM Technical Track 2

Concurrent Session 2A: Subgrade Stabilization

Improving subgrade strength and pavement performance by chemical treating subgrade soils
_N. Bandara & M.J. Grazioli_

A performance study of different curing materials applied to soil-Portland cement base course cure
_R. M. Fortes & J. V. Merighi_

Sustainable reconstruction of highways with in-situ reclamation of materials stabilized for heavier loads
_H. Wen & T. B. Edil_

The use of geofiber and synthetic fluid for stabilizing marginal soils
_K. Hazirbaba & B. Connor_

Concurrent Session 2B: Resilient Behavior of Granular Materials

Resilient modulus of hydraulically bound road base materials with high volume waste dust
_H. Al Nageim & P. Visulios_

Characterizing natural and recycled granular materials for (sub)base layers of roads by cyclic triaxial testing
_C. Grégoire, B. Dethy, J. Detry & A. Gomes Correia_

Resilient modulus of unbound base material containing extra waste Stancombe limestone dust
_B. Saghafi & H. Al Nageim_

Resilient characteristics of bottom ash
_H. H. Titi, A. R. Coenen & M. B. Elias_
Concurrent Session 2C: Asphalt Mixture Evaluation

Use of polymer modified binders to reduce rutting in Nordic asphalt pavements
*B.O. Lerfeld, J. Aurstad & N.S. Uthus*

Development of wear resistant pavements using polymer modified binders
*R.G. Saba, L.J. Bakløkk, J. Aksnes & B.O. Lerfeld*

Laboratory evaluation of warm mix asphalt using Sasobit®
*S.W. Goh, Y. Liu & Z. You*

Laboratory characterization of half-warm mix asphalts with high recycling rate by means of the factorial experiment design approach
*F. Olard, E. Beduneau, D. Bonneau, S. Dupriet & N. Seignez*

Concurrent Session 2D: Railroad Track Structures II

Evaluation of roadbed stiffness on bearing capacity of railroad ballast with discontinuous analysis
*T. Ishikawa, T. Kamei, E. Sekine & Y. Ohnishi*

Actions on railway track panel and ballast - behavior of the Hellenic limestone ballast
*K. Giannakos & A. Loizos*

Ballast evaluation and hot mix asphalt performance
*H.M. Lees*

Comparison of coal dust fouled railroad ballast behavior – granite vs. limestone
*W. Dombrow, H. Huang & E. Tutumluer*

6:30 PM-8:30 PM  Technical Visit - Advanced Transportation Research and Engineering Laboratory (ATREL) - Barbeque Reception
Day 2 - Wednesday, July 1, 2009

7:30 AM Registration

8:00 AM-9:45 AM Technical Track 3

**Concurrent Session 3A: Subgrade Bearing Capacity Designs**

Subgrade modification - practitioner’s experience  
*T. McCleary*

“Baku Bayil Yard Site” soil improvement geotechnical works  
*E. Guler, A. Gure & E. Cetin*

Design methodology based on strength and its application to full weathering granite used in highway subgrade  
*Z. Li & C. Dong*

Taxiway embankment over soft ground using staged construction  
*R. Wells, X. Barrett & T. Wells*

**Concurrent Session 3B: Permanent Deformation Behavior of Granular Materials**

Analytical evaluation of unbound granular layers in regard to permanent deformation  
*L.A.T. Brito, A.R. Dawson & P.J. Kolisoja*

Influence of the macroscopic cohesion on the 3D FE modeling of a flexible pavement rut depth  
*F. Allou, C. Petit, C. Chazallon, & P. Hornych*

Use of 3-dimensional discrete element model to examine aggregate layer particle movement due to load wander  
*P.R. Donovan, E. Tutumluer & H. Huang*

Processed Portuguese steel slag – a new geomaterial  
*A. Gomes Correia, S.M. Reis Ferreira, A.J. Roque & A. Cavalheiro*
Concurrent Session 3C: Modulus and Deformation Behavior of Asphalt Mixtures

Evaluation of different predictive dynamic modulus models of asphalt mixtures used in Argentina
F.O. Martínez & S.M. Angelone

Prediction of the dynamic modulus of Superpave mixes
A.Abu Abdo, F. Bayomy, R. Nielsen, T. Weaver, S.J. Jung & M.J. Santi

Dynamic modulus prediction of asphalt concrete using three tensile tests
S. Adhikari & Z.You

Assessing low temperature properties of asphalt materials by means of static testing techniques
M. Wistuba, K. Mollenhauer & K. Metzker

Concurrent Session 3D: Railroad Track Structures III

Measurement of vibrations induced by high-speed trains

Influence of the stiffness-damping coupling of the foundation in the performance of a high-speed train track
J. Cunha & A. Gomes Correia

Emerging trends for high-speed rail track superstructures – ballastless track as an alternative to the ballasted track
A.M. Paixão, E.C. Fortunato & M.L. Antunes

Dynamic responses and cyclic settlement of railway substructure
X. Bian

9:45 AM - 10:15 AM Break at Exhibit Hall
Concurrent Session 4A: Subgrade Continuous Compaction Control

Alternatives to heavy test rolling for cohesive subgrade assessment

Appraisal of density-based field compaction control test validity
J. Sadrekarimi & S. Seyyedi

Continuous compaction control: Preliminary data from a Delaware case study
F.S. Tehrani & C.L. Meehan

Geostatistical analysis of roller-integrated continuous compaction control data
N. Facas, M. Mooney & R. Furrer

Concurrent Session 4B: Recycled Concrete as Unbound Materials

Unbound crushed concrete in high volume roads – evaluation of field behavior and structural performance
J. Aurstad, J.E. Dahlhaug & G. Berntsen

Structural evaluation of rubblized concrete pavements in Iowa
H. Ceylan, K. Gopalakrishnan & S. Kim

Study on fully and highly efficiently recycling of waste concrete
L. Lu, Y. He & S. Hu

Idaho Airport saves time and money with full-depth reclamation
G.E. Halsted
Concurrent Session 4C: Performance Evaluations of Asphalt Mixtures

Research and applications of new pavement structure based on large stone porous asphalt mixture
B. Yufeng, W. Songgen & G. Huber

Ageing of stone mastic asphalt and evaluation of cracking resistance
S. Büchler, K. Mollenhauer, M. Wistuba & P. Renken

Permanent deformation evaluation of Idaho Superpave mixes using the gyratory stability
F. Bayomy, A.A. Abdo & M.J. Santi

Multidirectional behavior of bituminous mixture
P. Clec’h, C. Sauzèat & H. Di Benedetto

Concurrent Session 4D: Railroad Track Structures IV

Railway bridge transition case study
J.P. Hyslip, D. Li & C.R. McDaniel

Reducing track faults using polymer geocomposite technology
P.K. Woodward, G. Medero & D.V. Griffiths

Discrete Element Model of Ballast Aggregates Based on Imaging
H. Huang, E. Tutumluer, Y.M.A. Hashash, J. Ghaboussi

12:00 PM - 1:30 PM Lunch at Exhibit Hall
Concurrent Session 5A: Compaction and Construction of Geomaterials

Long-term in-situ measurements of concrete culverts with high fills
J. Vaslestad, G.Y. Yesuf & T.H. Johansen

Application of gray theory in settlement forecast of rock-fill highway embankment
X. Wang, W. Qin, M.C. Wang & Z. Wang

Data mining applied to compaction of geomaterials
R. Marques, A. Gomes Correia & P. Cortez

Study of dry sludge stabilization from water treatment plant (WTP) in Taiaçupeba to use as compacted soil in earthwork ditches

Concurrent Session 5B: Climatic Conditions Affecting Pavements

Seasonal coefficients for the pavement roads in Polish climate conditions
M. Graczyk

Effect of a changed climate on gravel roads
P.O. Aursand & I. Horvli

Water impact on the structural behavior of a pavement structure
S. Erlingsson

Mitigating unbound roadway rutting caused by groundwater movement
V. Diyaljee
Concurrent Session 5C: Construction and Performances of Asphalt Mixtures

Construction and field performance of hot mix asphalt with moderate and high RAP contents
_R. West, N. Tran, A. Kvasnak, B. Powell & P. Turner_

Viability of the use of construction and demolition debris in hot mix asphalt
_I. Pérez, M. Toledano & J. Gallego_

Design of pavements containing foamed bitumen recycled layers
_M. Losa, R. Bacci, A. Terrosi Axerio & P. Leandri_

Use of bitumen emulsion in urban paving
_C.R. de Carvalho Filho, F.P. Cavalcante, C. de Medeiros Brito Cavalcante, J.A. Gonçalves de Macêdo & I.D da Silva Pontes Filho_

Concurrent Session 5D: Bearing Capacity Designs of Airfield Pavements

Full-scale aircraft tire pressure tests
_C.Fabre, J. Balay, P.Lerat & A. Mazars_

A robust approach for the evaluation of airport pavement bearing capacity
_Y.H. Lee, Y.B. Liu, J.D. Lin & H.W. Ker_

Estimating bearing capacity for opportune landing sites
_R. Affleck, L. Barna, S. Shoop & C. Ryerson_

Evaluation of runway bearing capacity: in-situ measurements and laboratory tests
_A. Graziani, F. Cardone, E. Santagata & S. Barbati_

3:15 PM - 3:45 PM Break at Exhibit Hall
3:45 PM - 5:30 PM Technical Track 6

Concurrent Session 6A: In-Situ Measurement Techniques and Developments

Development of the UK highways agency traffic speed deflectometer
B. Ferne, P. Langdale, N. Round & R. Fairclough

Three years of high speed deflectograph measurements of the
Danish state road network
S. Baltzer

Deflection measurement: the need of a continuous and full
view approach

3D visualization model of road surface
X. Li, S. Ma & X. Hou

Concurrent Session 6B: Temperature Changes Affecting Pavements

Thermal stresses of asphalt pavement with temperature-dependent
modulus of elasticity
Y. Zhong & L. Geng

Use of Ground Penetrating Radar for detection of salt concentration
on Norwegian winter roads
A. Lalagüe, I. Hoff, E. Eide & A. Svanekil

Seal courses for a soft asphalt pavement with semi-rigid base in cold regions
X. Wang, X. Zhang & Y. Tan

Thermal stress analysis in ultra-thin whitetopping pavement
J.R. Roesler & D. Wang
Concurrent Session 6C: Applications of Recycled Materials - Asphalt

Bearing capacity assessment of recycled asphalt pavements
*V. Papavasiliou & A. Loizos*

The influence of virgin aggregate content on the strength and modulus of cold in place reclaimed asphalt pavement
*H. Wang, P. Hao & K. Zhang*

Hot mix asphalt produced from marble waste
*C. Gurer, H. Akbulut & A. Yildiz*

Expansive characteristics of RAP materials for use as aggregates in the pavement substructure layers
*D. Deniz, E. Tutumluer & J.S. Popovics*

Concurrent Session 6D: Construction and Testing of Concrete Pavements

Fiber-reinforced concrete pavement design and material requirements
*A. Bordelon & J. Roesler*

Analysis of in-pavement sensor data for CC2 new rigid test items at the FAA National Airport Pavement Test Facility
*D.R. Brill & E.H. Guo*

Comparison of precast and cast-in-place concrete pavements responses under heavy vehicle simulator loads
*E. Kohler, J. Harvey, L. du Plessis & L. Motumah*

Field testing of concrete pavements at Chicago O’Hare International Airport
*Y.-S. Liu & D. Lange*

6:00 PM-8:00 PM  Conference Banquet
I-Hotel and Conference Center
Day 3 - Thursday, July 2, 2009

7:30 AM Registration

8:00 AM-9:45 AM Technical Track 7

Concurrent Session 7A: Roadway Assessment Techniques I

Structural roadway assessment with frequency response function
J.-M. Simonin & D. Liève & J.-C. Dargenton

A method for benefiting pavement quality assurance measures related to roughness condition surveys
C. Plati & A. Loizos

Development and testing of low noise pavements in Norway
J. Aksnes, R.G. Saba & T. Berge

Roughness progression models by regression and artificial neural network techniques
E. Taddesse & H. Mork

Concurrent Session 7B: Nondestructive Structural Evaluation I

The use of impact-stiffness modulus outputs from FWD measurements to determine PCN in Israel
M. Livneh

Temperature correction of falling weight deflectometer measurements
E. Straube & D. Jansen

Lightweight deflectometers for quality assurance in road construction
P.R Fleming, M.W. Frost & J.P. Lambert

Going beyond elastic response while evaluating falling weight deflectometer data
C.A. Lenngren
Concurrent Session 7C: Reinforcement of Structural Layers

Performance of flexible pavements reinforced with steel fabric
S.F. Said, H. Carlsson & H. Hakim

Evaluation of geogrid displacement on subbase reinforcement using specially designed pullout test
M.V. Akpinar & T. Sert

In-situ strain measurement during dynamic shear loading of an unbound geogrid reinforced pavement section
B.R. Cox, B. Curry, C.M. Wood, C. Young & J.S. McCartney

Experimental study on bearing capacity of geocell-reinforced bases
S.K. Pokharel, J. Han, R.L. Parsons, Y. Qian, D. Leshchinsky & I. Halahmi

Concurrent Session 7D: Modeling of Materials and Pavement Systems I

PFC2D simulation research on vibrating compaction test of soil and rock aggregate mixture
X. Jia, H. Chai, Z. Yan & Y. Zheng

Finite element analyses of pavement materials at or near failure: a constant bulk modulus approach
C. Gonzalez & S. Jersey

Axi-symmetric analyses of vertically inhomogeneous elastic multilayered systems
J.W. Maina, Y. Ozawa & K. Matsui

Effects of bearing capacity and load transfer efficiency of jointed concrete pavements on reflective cracking in hot-mix asphalt overlays
J. Baek & I.L. Al-Qadi

9:45 AM - 10:15 AM Break at Exhibit Hall
10:15 AM-12:00 PM Technical Track 8

Concurrent Session 8A: Roadway Assessment Techniques II

Structural assessment of the English strategic road network – latest developments  
*B. Ferne, R. Sinhal & R. Fairclough*

Nature resources and functional road design criteria  
*C.A. Lenngren & R. Fredriksson*

Dynamic response of rigid pavements under moving traffic loads with variable velocities  
*Y. Zhong & L. Geng*

Pavement contribution to truck rolling resistance  
*C.A. Lenngren*

Concurrent Session 8B: Nondestructive Structural Evaluation II

Practical use of light weight deflectometer for pavement design  
*S. Baltzer, C. Hejlesen, H.C. Korsgaard & P.E. Jakobsen*

Analysis of FWD data and characterization of airfield pavement materials in New Mexico  
*M.U. Ahmed, R. Bisht & R.A. Tarefder*

Evaluation of asphalt road pavement rehabilitation using steel mesh reinforcement  
*J.M.C. Neves & A.R.D. Alves*

The use of surfacing service life as a parameter in pavement strengthening design  
*G. Refsdal, R. Johansen & G. Berntsen*
Concurrent Session 8C: Mechanistic-Empirical Design Applications

Comparison of design thickness between the 1993 AASHTO Guide and MEPDG for full depth reclamation pavement
Y. Ji & T.E. Nantung

Influence of unbound materials on flexible pavement performance: a comparison of the AASHTO and MEPDG methods
C.W. Schwartz

Verification of mechanistic-empirical pavement design guide for the state of New Jersey
N. Siraj, Y.A. Mehta, K.M. Muriel & R.W. Sauber

Mechanistic evaluation of second generation preservation overlays
D.A. Morian, S. Sadasivam, S.M. Stoffels, G. Chehab & T. Kumar

Concurrent Session 8D: Modeling of Materials and Pavement Systems II

Rigid pavement reinforcement: modeling of structural behavior
P. Domingos, M. Antunes & J. Neves

Joint modeling for JPCP: successes and pending problems
E. Guo

FEM analysis of the bearing plate deflection tests on rubblized concrete pavement
Y. Liu, Y. Sheng, & L. Wang

Design of pavement rehabilitation to reduce the reflective cracking in pavements with cement stabilized bases
E. Padilla

12:00 PM - 1:30 PM Lunch at Exhibit Hall
1:30 PM - 3:15 PM Technical Track 9

Concurrent Session 9A: Backcalculation Analyses of Deflection Measurements

Backcalculation of the stiffnesses of cement treated base courses using artificial intelligence
M. Miradi & A.A.A. Molenaar, M.F.C. van de Ven & S. Molenaar

CalBack: New backcalculation software for Caltrans mechanistic-empirical design
Q. Lu, J.M. Signore, P. Ullidtz, I. Basheer & K. Ghuzlan

SOFTSYS for backcalculation of full-depth asphalt pavement layer moduli
O. Pekcan, E. Tutumluer & J. Ghaboussi

Deterministic-empirical backcalculation of LWD deflection basins
R.N. Stubstad, H.C. Korsgaard, K. Olsen, & J.P. Pedersen

Concurrent Session 9B: Nondestructive Structural Evaluation III

Models to estimate k subgrade reaction modulus values based on deflection basin parameters

Using falling weight deflectometer data for new construction interactive design
C.A. Lenngren

Automated pavement thickness evaluation for FWD backcalculation
K.R. Maser, L.A. McGrath, B.C. Miller, H. Ceylan & G. Sanati

Lessons learned during regular monitoring of in situ pavement bearing capacity conditions
P. Paige-Green
Concurrent Session 9C: Modeling Interlayers and Overlay Systems

Evaluation of effectiveness of FWD use for assessment of pavement interlayer bond
*D. Sybilski, T. Mechowski & P. Harasim*

A case study: quantification and modeling of asphalt overlay delamination on an airport pavement
*E. Horak, J.W. Maina & S.E. Emery*

Mechanistic modeling of potential interlayer slip at base sub-base level
*E. Horak, J.W. Maina, S.E. Emery & B. Walker*

Unbonded concrete overlay movements in response to gear loads
*D. A. Morian, S. Sadasivam, J. Reiter, S. M. Stoffels, L. Yeh & A. Ioannides*

3:15 PM - 3:45 PM Break at Exhibit Hall

3:45 PM - 5:30 PM Technical Track 10

Concurrent Session 10A: Bearing Capacity Designs for Challenging Conditions & Load Effects

68_Load bearing analysis of EPS-block geofoam embankments
*D. Arellano & T.D. Stark*

252_Shear strength properties of naturally occurring bituminous sands
*J. Anochie-Boateng & E. Tutumluer*

46_The discussion on the “b” value of the axle load conversion in China
*X. Wang & L. Zhang*

103_A review of the influence of chalk on pavement performance in the South East of England, UK
*M. Zohrabi*

Concurrent Session 10B: Full-Scale and Structural Testing for Bearing Capacity

16_Validation of NCAT structural test track experiment using INDOT APT facility
*E. Levenberg*

54_Using the viscoelasticity and continuum damage theories to quantify the effects of loading speed in accelerated pavement testing results
*K.M. Theisen, D.R. Victorino, W.P. Nunez & J.A.P. Ceratti*

20_The premature failure of slab pavements on heavily trafficked industrial sites
Soil Characterization for Orion Contingency Land Landings
E. Heymsfield

Concurrent Session 10C: Chicago’s O’Hare International Airport Modernization
A virtual tour of the O’Hare Modernization Program (OMP)
R. Anderson, OMP

Characterizing subgrade soils and establishing treatment needs for runway 9L-27R
M.R. Thompson, University of Illinois at Urbana-Champaign

Concrete pavement and materials research supporting OMP projects
J.R. Roesler, University of Illinois at Urbana-Champaign

5:30 PM -6:00 PM CLOSING SESSION

Friday, July 3, 2009

10:30 AM-11:45 PM

Social Visit – Downtown Chicago, Illinois

The conference tour bus transports participants from Champaign-Urbana to Downtown Chicago for a day of sightseeing, shopping and entertainment on Chicago's Magnificent Mile, many museums and restaurants, and enjoy Chicago's Independence Day celebrations including “Taste of Chicago,” outdoor concerts, and fireworks in Grant Park!

http://www.tasteofchicago.us

Schedule
10:30 am – Depart Champaign-Urbana (boxed lunch included on the bus)
1:00 pm – Arrive Downtown Chicago - tour on bus
1:30 pm – Drop-off in Downtown Chicago
– Taste of Chicago in Grant Park
2:30 pm – Drop-off at O’Hare International Airport & bus returns to Downtown
7:30 pm – 85th Army Band in Grant Park
9:00 pm – Fireworks in Grant Park
9:45 pm – Bus departs Downtown Chicago
11:45 pm – Bus arrives in Champaign-Urbana