

2009 INTERNATIONAL CONFERENCE ON PERPETUAL PAVEMENT

September 30 – October 2, 2009

Hilton Columbus at Easton,
Columbus, Ohio

www.ohio.edu/icpp

Organized By

Ohio Research Institute for Transportation
and the Environment
Russ College of Engineering and
Technology
Ohio University

In Cooperation With

American Society of Civil Engineers, Central Ohio Section	National Asphalt Pavement Association
Asphalt Pavement Alliance	National Center for Asphalt Technology
Federal Highway Administration	New York State Department of Transportation
Flexible Pavements of Ohio	Ohio Department of Transportation

Welcome to the International Conference on Perpetual Pavement (ICPP) 2009

The 2009 International Conference on Perpetual Pavement (ICPP) brings together over 100 participants from government and the private sector to discuss topics on life cycle analysis, case histories, optimal design and construction approaches for asphalt pavements. Keynote presentations highlight the conference and provide perspectives from the state department of transportation, federal government and private sector. Topics germane to perpetual pavement, are covered in presentations and the conference proceedings. The conference includes a field trip to the Ohio University Accelerated Pavement Load Facility in Lancaster, OH. Companies and organizations have exhibits of their products and information. The Asphalt Pavement Alliance recognizes outstanding DOT projects at the Annual Perpetual Pavement awards luncheon on Thursday.

Attendees include representatives from state DOTs, several countries, federal government, municipal government, academia and private sector. ICPP 2009 provides attendees information to advance their knowledge of developments in this fast-moving field. Conference participants receive 8.75 Professional Development Hours.

Perpetual pavements, designed for a lifespan of 40 years, are an important option for transportation agencies seeking to reduce lifecycle costs. These pavements contain a surface layer of high quality hot-mix asphalt that resists rutting and traffic wear, a superpave layer of high modulus asphalt that also resists rutting, and a fatigue resistant bottom layer. Since maintenance is limited to periodic resurfacing, the long-term benefits of reduced maintenance and traffic control outweigh the slightly higher initial cost of construction.

The conference, organized by the Ohio Research Institute for Transportation and the Environment (ORITE) at Ohio University, is in cooperation with ASCE Central Ohio Section, APA, FHWA, Flexible Pavements of Ohio, NAPA, NCAT, NYDOT, and ODOT.

Welcome to the conference and join others in sharing experiences and information to advance this important field of perpetual pavement!

Gayle F. Mitchell, Ph.D., P.E.
Director of ORITE, Chair Department of Civil Engineering, Neil D. Thomas Professor

Keynote Speakers

Mr. Peter Grass
President, The Asphalt Institute

Mr. Grass is the 11th President of the Asphalt Institute. Under his leadership, the Asphalt Institute has grown its membership by nearly 20 percent, expanded representation in every membership category, clarified the roles and functions of the association's 11 standing committees, and reestablished the sound financial position of the organization. Mr. Grass is an alumnus of the University of New Hampshire where he earned a Bachelor of Science in Civil Engineering degree, and of the Georgia Institute

of Technology where he earned a Master of Science in Civil Engineering degree. He is a member of the American Society of Civil Engineers, the Association of Asphalt Paving Technologist, the Canadian Technical Asphalt Association, and several other professional organizations. Mr. Grass is a registered professional engineer in the state of Hawaii. He has served on the TRIP board of directors since 2003 and on the board of the Foundation for Pavement Preservation since 2004.

Dr. Mike Nunn
Specialist Pavement Consultant with LaneOne Limited, United Kingdom

Dr. Nunn is a Principal Scientist and a Senior Research Fellow at the UK's Transport Research Laboratory. He has broad experience in all aspects of highway engineering, and he has played a leading role in the development of practical engineering solutions to problems relating to pavement design and materials. His personal efforts have included the development of the current UK pavement design method, introduction of new pavement materials and construction techniques and end performance specifications. He introduced the concept of Long-life (Perpetual) pavements and this concept has revolutionized the design, condition assessment and maintenance of the motorway and primary road network in the UK. Dr. Nunn has extensive international experience in pavement design, and he has helped lead several projects for the European Union involving pavement design, modeling, and accelerated testing. He has published over 100 scientific papers and research reports.

Other Conference Highlights

Welcome and Opening Remarks:

Dr. Roderick J. McDavis, President, Ohio University
Ms. Jolene Molitoris, Director, Ohio Department of Transportation
Mr. Peter Stephanos, Director, Office of Pavement Technology, Federal Highway Administration

The Asphalt Pavement Alliance's Annual Perpetual Pavement Award Presentation to the following State Departments of Transportation: Arkansas, Maryland, Minnesota, Mississippi, Tennessee, and Washington.

Closing Remarks: Mr. Kent Hansen, Director of Engineering, National Asphalt Pavement Association

Field Trip to Ohio University's Asphalt Laboratory and the Accelerated Pavement Load Facility (APLF) in Lancaster, Ohio, to watch a demonstration of full scale testing of perpetual pavement and warm asphalt. The APLF is a 4,200 square foot facility capable of testing two, 12-foot wide adjacent lanes with 4 and 10 foot shoulders with loads ranging from 9,000 to 30,000 pounds with various wheel loading configurations, including random lateral wander of the loaded wheel.

Registration (Easton Foyer)

Tuesday, September 29, 2009

5:00 p.m. to 7:00 p.m.

Wednesday and Thursday, September 30 and October 1, 2009

7:30 a.m. to 4:00 p.m.

Exhibits (Easton Foyer)

Exhibits open during breaks

Schedule

(All meetings will be held in Ballrooms A&B)

Wednesday, September 30, 2009

8:15 – 9:15 a.m.

Welcome and Opening Remarks

- ❖ Dr. Roderick McDavis, President, Ohio University
- ❖ Ms. Jolene Molitoris, Director of Ohio Department of Transportation

9:15-10:15 a.m.

Keynote Speaker: Mr. Peter Grass, The Asphalt Institute
The Challenges We Face

10:15-10:30 a.m.

Break (Easton Foyer)

10:30 a.m. -12:00 p.m.

Session Moderator: Mr. David Humphrey, Ohio DOT

Presentations

- ❖ Thompson and Carpenter: Perpetual Pavement Design: An Overview
- ❖ Brown: Carbon Footprint of HMA and PCC Pavements
- ❖ Rose and Bryson: Hot Mix Asphalt Railway Trackbeds: Trackbed Materials, Performance Evaluations and Significant Implications

12:00 – 1:30 p.m.

Luncheon (Easton Regent 3)

Keynote Speaker: Dr. Michael Nunn, LaneOne Limited
A Radical View of Pavement Performance

1:30-3:00 p.m.

Session Moderator: Mr. Cliff Ursich, Flexible Pavements of Ohio
Presentations

- ❖ Tarefder and Bateman: Determining the Optimal Perpetual Pavement Structure
- ❖ Molenaar, van de Ven, Poot, Liu, Scarpas, Scholten and Kluttz: Modified Base Courses for Reduced Pavement Thickness and Increased Longevity

- ❖ Timm and Peters-Davis: Perpetual Pavement Design Using the MEPDG and PERROAD

3:00-3:30 p.m.

Break (Easton Foyer)

3:30-5:00 p.m.

Session Moderator: Mr. Cliff Ursich, Flexible Pavements of Ohio
Presentations

- ❖ Zofka, Nener-Plante, and Yut: Case Study on Perpetual Pavement in Connecticut
- ❖ Monismith, Harvey, Bressette, Suszko and St. Martin: The Phase One I-710 Rehabilitation Project: Initial Design (1999) to Performance After Five Years of Traffic (2008)
- ❖ Liao and Sargand: Controlled Load Vehicle Testing and Numerical Modeling of US 30 Perpetual Pavement AC Test Section 664

Thursday, October 1, 2009

8:30 – 10:00 a.m.

Session Moderator, Mr. Aric Morse, Ohio DOT

Presentations

- ❖ Kim and Underwood: Analytical Techniques for Determining Endurance Limit of Hot Mix Asphalt Concrete
- ❖ Bendana and Hernandez: Comparison between perpetual and standard asphalt concrete pavement sections on NY I-86
- ❖ Willis and Timm: A Comparison of Laboratory Fatigue Thresholds to Measured Strains in Full-Scale Pavements

10:00-10:30 a.m.

Break (Easton Foyer)

10:30 a.m. -12:00 p.m.

Session Moderator, Mr. Aric Morse, Ohio DOT

Presentations

- ❖ Morian and Frith: Consideration of Design Parameters for Long Life Pavements
- ❖ Robbins and Timm: Effects of Strain Pulse Durations on Tensile Strain in a Perpetual Pavement
- ❖ Nunn, Carswell and James: Is Flexible Pavement Design on the Right Road?

12:00 – 1:30 p.m.

The Asphalt Pavement Alliance's Annual Perpetual Pavement Awards Luncheon (Easton Ballrooms C&D)

1:30-3:00 p.m.

Session Moderator, Mr. Wayne Brassell, Kokosing Construction Co., Inc.

Presentations

- ❖ Driscoll: Cuyahoga County Constructs a Perpetual Pavement
- ❖ Walubita, Scullion, Leidy and Liu: A Review of the Texas Structural Design Criteria for Perpetual Pavements
- ❖ Romanoschi, Lewis and Portillio: The Stiffness and Fatigue Properties of the Asphalt Concrete Constructed at the Kansas Perpetual Pavements

3:00-3:30 p.m.

Break (Easton Foyer)

3:30-5:00 p.m.

Session Moderator, Mr. Wayne Brassell, Kokosing Construction Co., Inc.

Presentations

- ❖ Carpenter and Shen: Effect of Mixture Variables on the Fatigue Endurance Limit for Perpetual Pavement Design
- ❖ Timm, Robbins and May: Incorporation of Sulfur Extended Asphalt Mix in Perpetual Pavement Design
- ❖ Rahman and Subagio: The Evaluation on Rheological Property of Full Bitumen ASBUTON and Pen 60/70 Petrol Asphalt Mixture

Friday, October 2, 2009

8:00 – 9:30 a.m.

Session Moderator, Mr. Roger Green, Ohio DOT

Presentations

- ❖ Behbahani, Khaki and Amini: Assessment of Perpetual Pavement Performance using Mechanistic_empirical Pavement Design Guide (M-E PDG) and PerRoad Software Models
- ❖ Timm, Gierhart and Willis: Strain Regimes Measured in Two Full Scale Perpetual Pavements
- ❖ El-Hakim, Tighe and Galal: M-E Performance Evaluation and LCCA of a Conventional Asphalt Pavement and a Perpetual Asphalt Pavement Sections

9:30-10:00 a.m.

Break (Easton Foyer)

10:00 a.m. -11:30 p.m.

Session Moderator, Mr. Roger Green, Ohio DOT

Presentations

- ❖ Andrews, Gallivan and Huber: Design and Construction of Highways for Very Heavy Trucks

- ❖ Hofko and Blab: EURODEX – Strategic Plan for a European Road Damage Experiment
- ❖ Vavrik, Harrell and Gillen: Achieving Perpetual Pavement through Staged Construction

11:30 a.m. -12:00 p.m.

Closing Remarks, Mr. Kent Hansen, National Asphalt Pavement Association

12:00 – 12:45 pm

Lunch on your own

12:45 – 5:00 pm

*Field Trip to Accelerated Pavement Load Facility
Ohio University
Lancaster, OH*

Technical Committee

Chair: Dr. Shad M. Sargand ORITE and Ohio University	Co-Chair: Dr. Deborah McAvoy Ohio University
Dr. Imad Al-Qadi University of Illinois	Dr. Soheil Nazarian University of Texas at El Paso
Dr. Luis Julián Bendaña New York State DOT	Dr. David E. Newcomb National Asphalt Pavement Association
Dr. Samuel Carpenter University of Illinois	Dr. Michael Nunn Lane One Limited
Dr. Bouzid Choubane Florida DOT	Mr. David B. Powers Ohio DOT
Dr. Hervé Di Benedetto ENTPE	Dr. Mansour Solaimanian The Pennsylvania State University
Dr. Ludwig Figueroa Ohio University (Emeritus)	Dr. Marshall R. Thompson University of Illinois
Mr. Roger Green Ohio DOT	Mr. Cliff Ursich Flexible Pavements of Ohio
Mr. Wayne Jones Asphalt Institute	Dr. Jacob Uzan Israel Institute of Technology
Dr. Y. Richard Kim North Carolina State University	Mr. Harold Von Quintus Applied Research Associates
Dr. Andre Molenaar Technical University of Delft	Mr. Benjamin Worel Minnesota DOT
	Dr. Wei-Shih Yang New York State DOT

