

Agenda

***Presented by Feng Mu, Ph.D., James W. Mack, P.E.
and Les H. White, P.E.***

Principles of Pavement Design

Functions and design criteria of pavements

Considerations in pavement design

- Traffic
- Subgrade soil
- Environment
- Construction material
- Pavement type selection
- Use of base/soil improvement
- Drainage
- Life cycle cost analysis (LCCA)

Pavement modeling and design guidelines

New Flexible Pavement Structural Design

AASHTO 93 and AASHTO Pavement ME design method

How to collect/determine design inputs

Reclamation and recycling

New Rigid Pavement Design

AASHTO 93, AASHTO Pavement ME, ACI and ACPA design methods

How to collect/determine design inputs

Optimizing the design

Pavement Preservation, Maintenance and Rehabilitation

Determining the cause of pavement deterioration (common distresses)

Intro to pavement preservation and maintenance techniques

Pavement rehabilitation (overlays)

Sustainability of Pavements

Intro to pavement asset management

Life cycle assessment (LCA)/carbon footprint analysis

- Pavement-vehicle Interaction
- Carbon footprint: production of raw material, construction and user phase
- Albedo

Extreme weather conditions

- Flood and pavement design

Environment and LEED credits

- Recycled materials
- Pervious pavements

Pavement Design

Knoxville, TN - Tuesday, January 16, 2018



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Learning Objectives

You'll be able to:

Review important considerations in pavement design, including traffic, soils, environment and drainage.

Understand AASHTO 93 and AASHTO Pavement ME design methods for flexible pavement.

Discuss new rigid pavement design using AASHTO Pavement ME, ACI and ACPA design methods.

Determine the causes of pavement deterioration and learn about pavement preservation and maintenance techniques.

Evaluate the life cycle of pavements and explore pavement-vehicle interaction.



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Understand the impact of traffic, soils, materials, environment and drainage on pavement design

Learn about pavement preservation, maintenance, and rehabilitation

Review AASHTO 93 and AASHTO Pavement ME design methods

Explore the sustainability of pavements

Examine flexible and rigid pavement structural design

Continuing Education Credits

This seminar provides professional engineers with 6.5 PDHs, including 6.5 Tennessee HSW PDHs.



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Feng Mu, Ph.D. *Paving Solution Engineer, CEMEX*
Dr. Mu is a paving solution engineer for CEMEX. He has developed new jointed plain concrete pavement and roller-compacted concrete as well as overlay solutions for highways, city streets, industrial yards and parking lots. He has also evaluated many aspects of the new *AASHTO Pavement ME Design Guide* (aka MEPDG) based on various modeling techniques and field observations. Dr. Mu has authored many peer-reviewed technical papers and currently serves on the Pavement Maintenance Committee of the Transportation Research Board of National Academy of Sciences. He earned his Ph.D. degree in Civil and Environmental Engineering from the University of Pittsburgh.

James W. Mack, P.E. *Director, Market Development, CEMEX*
Mr. Mack has 25 years of pavement engineering experience with expertise in concrete pavement design, rehabilitation, construction, forensic evaluation, management, materials specification and evaluation. He also has experience in life cycle cost analysis and life cycle assessment (environmental impact). He has a Master of Business Administration degree from the University of Chicago’s, Graduate School of Business with a specialization in Finance, and Masters of Science and a Bachelors of Science degrees in Civil/Pavement Engineering from the University of Illinois at Urbana-Champaign. Mr. Mack is a registered professional engineer in the states of Illinois and Texas. He is active and holds leadership roles in numerous industry associations and national/state organizations across the US.

Les H. White, P.E. *Paving Solution Engineer, CEMEX*
Mr. White joined Cemex in April 2014 as a paving solutions engineer covering the Atlanta and East Tennessee divisions. In this position, he works with engineers, architects, developers and contractors, as well as with cities and counties, to identify and develop cement and concrete opportunities and improve concrete pavement designs for parking lots, streets, and other applications. He has over 20 years of civil site design experience with expertise in pavement rehabilitation and maintenance, concrete pavement design, and construction administration project oversight. Mr. White has a Bachelor of Science degree in Civil Engineering from the Georgia Institute of Technology and is a licensed professional engineer in the State of Georgia. He sits on the Paving Committee of the American Society of Concrete Contractors and is a member of the American Society of Civil Engineers and the American Council of Engineering Companies.

Seminar Information

Knoxville Marriott
501 East Hill Avenue
Knoxville, TN 37915
(865) 637-1234

Tuition
\$279 for individual registration.
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How to Register

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Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the CD/manual package. You may also send another person to take your place.

Continuing Education Credit Information

This seminar is open to the public and offers 6.5 PDHs to professional engineers in all states, including 6.5 HSW PDHs to Tennessee professional engineers. Course providers and courses are not subject to preapproval in Tennessee.

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This course offers a non-credit continuing education opportunity to contractors. It has not been reviewed by a state contractor licensing board with a mandatory continuing education requirement.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Can’t Attend? Order the CD/Manual Package:
An audio recording of this seminar is available for \$289 (including shipping). Allow five weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Additional Learning

November Webinar Series

Cogeneration System Principles and Practice

- **Understanding the Benefits of Cogeneration**
Thurs., Nov. 16, 2017, 11:00 AM - 12:30 PM CST
- **Laws, Regulations and Building Codes Impacting Cogeneration**
Thurs., Nov. 16, 2017, 1:00 - 2:30 PM CST
- **Examining Cogeneration Technologies**
Fri., Nov. 17, 2017, 11:00 AM - 12:30 PM CST
- **Moving to Cogeneration: Analysis, Modeling and Case Studies**
Fri., Nov. 17, 2017, 1:00 - 2:30 PM CST

Flood-Resistant Buildings

- **Floodplain Development under NFIP Standards**
Wed., Nov. 29, 2017, 11:00 AM - 12:00 PM CST
- **Building Design under NFIP Standards**
Wed., Nov. 29, 2017, 12:30 - 2:00 PM CST
- **Designing and Constructing Flood-Resistant Buildings**
Fri., Nov. 30, 2017, 11:00 AM - 12:00 PM CST
- **Designing and Constructing Foundations and Above-Grade Flood Resistance**
Fri., Nov. 30, 2017, 12:30 - 2:30 PM CST

For more information visit:
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Registration

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Complete the entire form. Attach duplicates if necessary.	Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
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Tuition

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