

Agenda

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, Rehabilitation and Sustainability

Albuquerque, NM - Tuesday, March 19, 2019



Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278

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Learning Objectives

You'll be able to:

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

Review AASHTO 93 and AASHTO Pavement ME design methods.

Examine flexible and rigid pavement structural design.

Learn about pavement preservation, maintenance, and rehabilitation.

Explore the sustainability of pavements.



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Continuing Education Credits

Professional Engineers
6.5 PDHs

Contractors
Non-Credit Continuing Ed.



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Faculty

Feng Mu, Ph.D., P.E. *Senior Flatwork Engineer at PNA*
Dr. Feng Mu has more than 10 years of experience in concrete paving, engineering and research. He earned his master's degree in Geotechnical Engineering from the University of Hong Kong, and his doctorate degree in Pavement Engineering from the University of Pittsburgh. He has authored more than 30 peer-reviewed technical papers, one of which won the Yoder Outstanding Paper for concrete pavements. He is currently serving on the Pavement Maintenance Committee of the Transportation Research Board (TRB) of the National Academy of Science. He also co-chairs the Pavement Design Task Force of the American Concrete Pavement Association (ACPA) and oversees the development of *Pavementdesigner.org*. Before joining PNA, Dr. Mu was a senior Pavement Engineer at CEMEX Inc., where he focused on developing optimized concrete paving solutions for roadway, commercial and industrial applications, optimized concrete mix designs, and life cycle analysis/assessment of concrete pavements. He is an expert on numerical modeling and very experienced with the *AASHTO Pavement ME Design Guide* (aka MEPDG).

Thomas J. Van Dam, Ph.D., P.E., FACI, LEED AP
Dr. Van Dam is a principal at NCE with more than 30 years of civil engineering experience, specializing in pavement design and evaluation, forensic investigations, materials assessment, and sustainability. Dr. Van Dam has an excellent record in both the private sector and in academia. Over the past 10 years he has been a principal responsible for directing pavement design, materials, and sustainability groups with great success. In total, Dr. Van Dam has published over 100 technical articles and is a frequent presenter on pavements, concrete materials, and sustainability.

Seminar Information

Albuquerque Marriott Pyramid North 5151 San Francisco Rd NE Albuquerque, NM 87109 (505) 821-3333	Registration 8:00 - 8:30 am Morning Session 8:30 - 11:30 am	Lunch (on your own) 11:30 am - 12:30 pm Afternoon Session 12:30 - 4:30 pm
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Tuition
\$289 for individual registration
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• Call customer service at 715-835-5900

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Additional Learning

Webinar Series
Off-Grid Master Class

- Off-Grid Master Class, Part I**
Wed., Feb. 6, 2019, 11:00 AM -2:15 PM CST
- Off-Grid Master Class, Part II**
Thurs., Feb. 7, 2019, 11:00 AM -2:15 PM CST

Complying with ADA Standards for Accessible Design

- Complying with Federal and State Accessibility Requirements**
Thurs., Feb. 7, 2019, 11:00 AM -1:30 PM CST
- Meeting Requirements in IBC and ADA Standards**
Fri., Feb. 8, 2019, 11:00 AM -1:30 PM CST

Special Inspections

- Introduction to Chapter 17: Special Inspections**
Wed., Feb. 13, 2019, 11:00 AM -12:30 PM CST
- Soils and Foundations**
Wed., Feb. 13, 2019, 1:00 -2:30 PM CST
- Reinforced Concrete and Structural Steel**
Thurs., Feb. 14, 2019, 11:00 AM -12:30 PM CST
- ACT Ceiling Grid, Epoxy Anchors, and Fire Penetrations**
Thurs., Feb. 14, 2019, 1:00 -2:30 PM CST

Foundations in Cold Regions

- Introduction to Cold Regions Foundations**
Thurs., Feb. 21, 2019, 11:00 AM -12:30 PM CST
- Shallow Foundation Design in Cold Regions**
Thurs., Feb. 21, 2019, 1:00 -2:30 PM CST
- Deep Foundation Design in Cold Regions**
Fri., Feb. 22, 2019, 11:00 AM -12:30 PM CST
- Foundation Construction in Cold Regions**
Fri., Feb. 22, 2019, 1:00 -2:00 PM CST

For more information and other online learning opportunities visit:
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Continuing Education Credit Information

This seminar offers 6.5 PDHs/continuing education hours to professional engineers in all states. Educators and courses are not subject to preapproval in New Mexico.

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This event offers contractors a non-credit continuing education opportunity.

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 Manual and Audio from the Live Seminar as a Self-Study Package!
An audio recording of this seminar is available for \$289. Allow four 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.

Registration

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How to Register Online: www.halfmoonseminars.org Phone: 715-835-5900 <table><tr><td>Fax: 715-835-6066</td><td>Code:</td></tr></table> Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278 Complete the entire form. Attach duplicates if necessary.	Fax: 715-835-6066	Code:	Registrant Information Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____ Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____ 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. () I need special accommodations. Please contact me.
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Tuition () I will be attending the live seminar. Single Registrant - \$289.00. Three or more registrants from the same company registering at the same time - \$269.00 each. () I am not attending. Please send me the self-study package for \$289.00. ☐ Downloadable MP3 Audio/PDF Manual ☐ CD/Manual Package (Please allow four weeks from seminar date for delivery) Checks: Make payable to HalfMoon Education Inc. Credit Card: <i>Mastercard, Visa, American Express, or Discover</i> Credit Card Number: _____ Expiration Date: _____ CVV2 Code: _____ Cardholder Name: _____ Billing Address: _____ City: _____ State: _____ Zip: _____ Signature: _____ Email: _____			
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