

# Agenda

Presented by James "Jay" A. McKelvey, III, D.GE, F.ASCE

## Slope Stability Introduction and Investigations

Types of slope movement and instability

- Erosion and mudslides
- Veneer failures
- Deep seated circular failures
- Rapid drawdown
- Rockfall and rock slides
- Seismic

Soil investigations for slope stability

- Site reconnaissance
- Geology and visual observations
- Obtaining and reviewing geotechnical reports
- Establishing appropriate investigational methods
- Subsurface investigations

## Reviewing Properties of Soils and Rock

Soil classification

Physical properties

Permeability

Drained and undrained shear strength

Rock mass rating (RMR)

- Compressive strength
- Rock quality designation (RQD)
- Bedding planes, spacing and condition of discontinuities

## Slope Stability and Rockfall Analyses

Slope stability concepts

Understanding slope failures

Impact of surface water and groundwater

Seismic stability

Rockfall analyses

## Slope Stabilization and Case Histories

Examining slope stabilization methods

- Surface armament and vegetation
- Unloading and buttressing
- Drainage
- Reinforcement with geosynthetics
- Rock slope stabilization

Case histories

## Slope Stabilization and Landslide Prevention

Richmond, VA - Monday, September 16, 2019



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PO Box 278  
Altoona, WI 54720-0278

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## Learning Objectives

### You'll be able to:

**Identify** and discuss types of slope movement and instability, including erosion, mudslides, veneer failures, rockfall and rock slides.

**Identify** and describe properties of soils and rock, including permeability, and drained and undrained shear strength, consider the impact of these properties on slope stability or instability.

**Define** the effect of surface water and groundwater on slope stability, and determine what seismic conditions may impact slope stability.

**Determine** appropriate slope stabilization methods, including surface armament, unloading, buttressing, drainage, and reinforcement with geosynthetics.



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# Slope Stabilization and Landslide Prevention

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**Learn** about types of slope movement and instability

**Use** soil investigation to determine slope stability

**Use** rock mass rating (RMR) as a prediction of slope stability

**Discuss** the impact of surface water on stability

**Review** slope stabilization methods and case histories

## Continuing Education Credits

### Professional Engineers

6.5 Continuing Ed. Hours

### Architects

6.5 Continuing Ed. Hours (HSW)

6.5 AIA LU|HSW

### Landscape Architects

6.5 Continuing Ed. Hours (HSW)

6.5 LA CES HSW PDHs

### Floodplain Managers

6.5 ASFPM CECs

### Contractors

Non-Credit Continuing Ed.



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# Faculty

**James “Jay” A. McKelvey, III, D.GE, F.ASCE** *Director- Geotechnical Design Division at Earth Engineering Inc.*

Mr. McKelvey is the Director of the Geotechnical Design Division at Earth Engineering Inc. in East Norriton, Pennsylvania. He is a registered professional engineer (P.E.) in California, Delaware, Maryland, New Jersey, Pennsylvania, Virginia and the District of Columbia. Mr. McKelvey is also a diplomate (D.GE) of the Academy of Geo-Professionals and a fellow of the American Society of Civil Engineers (F.ASCE).

Mr. McKelvey has extensive experience in geotechnical engineering including site assessment and field investigations, deep and shallow foundation design for buildings, bridges and other structures, retaining wall design, embankment stability, mechanically stabilized soil structures, and subsurface hydrology.

He also has significant experience in mitigating heavy construction claims and in litigation support pertaining to impacted heavy construction projects. Mr. McKelvey has also handled construction support and construction quality assurance projects. His environmental engineering experience includes technical contributions to the remediation of many Superfund sites and over fifty landfill design projects.

Mr. McKelvey has published over 30 technical papers in journals, conference proceedings and trade magazines. He is currently the past chair for the Delaware Valley Geo-Institute (DVGI) and is a voting member in ASTM committees Soil and Rock (D18) and Geosynthetics (D35), and he is an editorial board member of the *Geotechnical Testing Journal*. Mr. McKelvey also serves on two Geo-Institute committees: Earth Structures and Embankments and Dams, the latter of which he is a member of the subcommittee on landslide risk assessment.

# Seminar Information

## Hyatt Place Richmond/Arboretum

201 Arboretum Place  
Richmond, VA 23236  
(804) 560-1566

Registration  
8:00 - 8:30 am  
Morning Session  
8:30 am - 12:15 pm  
Lunch (on your own)  
12:15 - 1:15 pm  
Afternoon Session  
1:15 - 4:30 pm

## Tuition

**\$289** for individual registration  
**\$269** for three or more registrations.

**Included with your registration:** Complimentary continental breakfast and printed seminar manual.

**Receive a reduced tuition rate of \$101** by registering to be our on-site coordinator for the day. For availability and job description, please visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org).

## How to Register

- Visit us online at [www.halfmoonseminars.org](http://www.halfmoonseminars.org)
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

**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 self-study 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 continuing education hours to engineers, architects, and landscape architects (HSW) in most states, including Virginia. Educators and courses are not subject to preapproval in Virginia.

This event has been approved by the American Institute of Architects Continuing Education System for 6.5 LU|HSW (Sponsor No. J885) and by the Landscape Architecture Continuing Education System for 6.5 HSW PDHs. Full attendance is required for attendance reporting to AIA/CES and LA/CES. Visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org) for complete AIA information under this course listing.

HalfMoon Education is an approved continuing education sponsor for engineers in North Carolina.

The Association of State Floodplain Managers has approved this event for 6.5 CECs.

This course offers a non-credit continuing education opportunity to contraction contractors. It has not been preapproved in any state with contractor continuing education requirements.

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

# Additional Learning

## Webinar Series

### Structural Design and Ethics

- **Structural Design: Ethical Issues**  
Thurs., August 15, 2019, 11:00 AM - 12:00 PM CDT
- **Structural Design: Gravity Forces**  
Thurs., August 15, 2019, 12:30 - 2:30 PM CDT
- **Structural Design: Lateral Forces**  
Fri., August 16, 2019, 11:00 AM - 12:30 PM CDT
- **Structural Design: Wind, Seismic and Connections**  
Fri., August 16, 2019, 1:00 - 2:30 PM CDT

### Proposal Writing

Wed., August 7, 2019, 11:00 AM - 3:30 PM CDT

### Technical Writing

- **Planning Documents**  
Wed., August 14, 2019, 11:00 AM - 1:00 PM CDT
- **Writing Documents**  
Wednesday, August 14, 2019, 1:30 - 3:30 PM CDT
- **Revising and Editing Documents**  
Thurs., August 15, 2019, 11:00 AM - 1:00 PM CDT
- **Technical Writing Best Practices**  
Thurs., August 15, 2019, 1:30 - 3:30 PM CDT

### Introduction to Hydro Energy

#### Logic Modeling Software (HELP-FL)

- **Introduction to Hydro Energy Logic Program Modeling Software (HELP-FL), Part I**  
Tues., August 20, 2019, 11:00 AM - 2:00 PM CDT
- **Introduction to Hydro Energy Logic Program Modeling Software (HELP-FL), Part II**  
Wed., August 21, 2019, 11:00 AM - 2:30 PM CDT

### Small Wind Energy Systems

- **Small Wind Energy System Components**  
Thurs., August 22, 2019, 11:00 AM - 1:00 PM CDT
- **Small Wind Energy Siting and Sizing**  
Fri., August 23, 2019, 11:00 AM - 1:00 PM CDT

For more information visit:  
[www.halfmoonseminars.org/webinars/](http://www.halfmoonseminars.org/webinars/)

## Can't Attend? Order the Manual and Audio from the Live Seminar as a Self-Study Package!

Audio recordings of this seminar are available for purchase starting at \$269. See registration panel for more information and 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	
<b>Online:</b> <a href="http://www.halfmoonseminars.org">www.halfmoonseminars.org</a>	
<b>Phone:</b> 715-835-5900	
<b>Fax:</b> 715-835-6066	<b>Code:</b>
<b>Mail:</b> HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
<b>Complete the entire form.</b> Attach duplicates if necessary.	
<b>Registrant Information</b>	
Name: _____	
Company/Firm: _____	
Address: _____	
City: _____ State: _____ Zip: _____	
Occupation: _____	
Email: _____	
Phone: _____	
<b>Additional Registrants:</b>	
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.	

## 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:

- Downloadable MP3 Audio/PDF Manual for **\$269.00**.
- CD/Manual Package for **\$289.00**.

(S&H included. Please allow five weeks from seminar date for delivery)

**Checks:** Make payable to HalfMoon Education Inc.

**Credit Card:** *Mastercard, Visa, American Express, or Discover*

Credit Card Number: \_\_\_\_\_

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