

Agenda

Presented by Daniel P. Messmer, P.E., D. GE

Science of Structures and Soils

Building site evaluation

Site exploration

Geologic hazards

Environmental impacts

Typical loads on foundations

- Gravity loads
- Lateral loads

Typical loads on basement walls

- Gravity loads
- Soil loads

Typical loads on slabs

Soil mechanics and effects on structures

- Soil properties
- Bearing capacity
- Effects on basement walls and retaining walls
- Soil settlement
- Effects of water, frost and freeze/thaw cycle

Foundation Design and Construction

Design and construction of foundations

- Continuous wall footings, column footings

Design and construction of basement walls

Design and construction of specialty features: walk-outs,
partially-exposed foundations

Diagnosing Foundation and Slab Damage and Evaluating Repair Methods

Identifying damage

- Settlement
- Frost heave
- Expansive soils
- Shrinkage

Repair methods

- Piers
- Soil tiebacks
- Underpinning
- Rebuilding

Diagnosing Basement Wall Damage and Evaluating Repair Methods

Identifying damage

- Settlement
- Frost heave
- Expansive soils
- Shrinkage

Cracking

- Failure of connections to supporting diaphragms

Repair methods

- Piers
- Soil tiebacks
- Carbon fibers
- Soldier beams
- Crack repair methods

**Foundation Damage and Repair:
Science, Materials and Techniques**
Amherst, NY - Friday, March 23, 2018

NON-PROFIT
U.S. POSTAGE PAID
EAU CLAIRE, WI
PERMIT NO. 2016

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



Learning Objectives

You'll be able to:

Evaluate typical loads on foundations, basement walls and slabs and understand the effect of soil mechanics on structures.

Learn about the design and construction of foundations including continuous wall footings, column footings and specialty features like walk-outs and partially-exposed foundations.

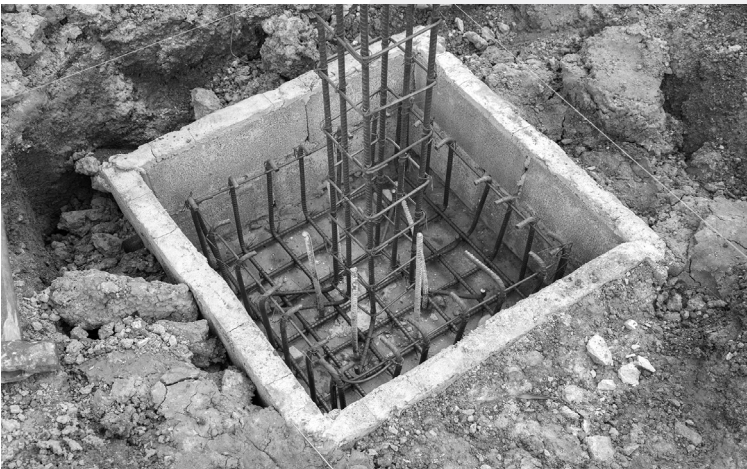
Identify damage due to settlement, frost heave, expansive soils and shrinkage, and evaluate repair methods.

Diagnose basement wall damage and evaluate repair methods, including piers, soil tiebacks, and carbon fibers.



Foundation Damage and Repair: Science, Materials and Techniques

Amherst, NY - Friday, March 23, 2018



Review the science of structures and soils

Learn about foundation design and construction

Study causes of foundation damage, including settlement, frost heave and shrinkage

Diagnose foundation and slab damage, and learn repair techniques

Discuss basement wall damage and evaluate repair methods

Continuing Education Credits

Professional Engineers

6.5 Continuing Ed. Hours

Architects

6.5 HSW Continuing Ed. Hours

6.5 AIA HSW Learning Units

Contractors

Non-Credit Continuing Ed.



HalfMoon Education Inc.
WWW.HALFMOONSEMINARS.ORG



Faculty

Daniel P. Messmer, P.E., D. GE *Project Manager with The Gateway Engineers, Inc., in Pittsburgh*
Mr. Messmer has over 30 years of engineering experience in analysis, design, plan/specification development, and project management/personnel supervision for geotechnical, foundation and structural engineering projects in the transportation, industrial, municipal and commercial fields of civil engineering. He is currently registered as a professional engineer in 25 states and has worked internationally, having had the opportunity to visit six of the seven continents. Throughout his career he has placed an emphasis on quality control and staff training. Mr. Messmer is a member of the American Society of Civil Engineers, the American Concrete Institute, the American Society of Highway Engineers and the Society of American Military Engineers. He earned his B.S. degree in Civil Engineering from the University of Pittsburgh. Mr. Messmer was accepted into the Academy of Geo-Professionals in 2013.

Seminar Information

Buffalo Marriott - Niagara 1340 Millersport Hwy. Amherst, NY 14221 (716) 689-6900	Registration 8:00 - 8:30 am Morning Session 8:30 - 11:45 am	Lunch (On your own) 11:45 am - 12:45 pm Afternoon Session 12:45 - 4:30 pm
---	--	--

Tuition
\$279 for individual registration
\$259 for three or more simultaneous registrations.
Each registration includes a complimentary continental breakfast and printed seminar manual.

How to Register

- Visit us online at 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. You may also send another person to take your place.

Additional Learning

Webinar Series

- Pumping and Piping System**

 - **Introduction to Pumps: Operation, Principles and Calculations**
Thurs., Jan. 25, 2018, 12:00 - 2:00 PM CST
 - **Design Standards and Codes**
Thurs., Jan. 25, 2018, 2:30 - 3:30 PM CST
 - **Piping System Components, Materials and Calculations**
Fri., Jan. 26, 2018, 12:00 - 2:00 PM CST
 - **Handling Pump and Piping System Problems**
Fri., Jan. 26, 2018, 2:30 - 3:30 PM CST
- Designing Solar Roofs and Community Solar**

 - **Design Your Solar Roof**
Wed., Jan. 24, 2018, 11:00 AM - 2:15 PM CST
 - **Community Solar**
Wed., Jan. 31, 2018, 11:00 AM - 2:15 PM CST
- Building Operations and Efficiency**

 - **Identifying Energy Efficiency Opportunities in Major Renovations**
Thurs., Feb. 1, 2018, 11:00 AM - 12:30 PM CST
 - **Integration of “Energy Modeling” in the Design of High Performance Buildings**
Thurs., Feb. 1, 2018, 1:00 - 2:30 PM CST
 - **High Efficiency Building Design Standards**
Fri., Feb. 2, 2018, 11:00 AM - 12:30 PM CST
 - **Commissioning and Operation of High Performance Buildings**
Fri., Feb. 2, 2018, 1:00 - 3:00 PM CST
- NFPA 70E**

 - **NFPA 70E, Part I**
Thurs., Feb. 8, 2018, 11:00 AM - 3:30 PM CST
 - **NFPA 70E, Part II**
Fri., Feb. 9, 2018, 11:00 AM - 3:30 PM CST

For more information visit:
www.halfmoonseminars.org/webinars/

Continuing Education Credit Information

This seminar is open to the public and offers up to 6.5 continuing education hours to professional engineers and 6.5 HSW continuing education hours to architects in all states, excluding Florida architects.

HalfMoon Education is deemed a New York-approved continuing education provider for architects via its affiliation with the American Institute of Architects. HalfMoon Education is an approved continuing education provider for New York engineers (NYSED Sponsor No. 35) and New Jersey engineers (Approval No. 24GP00000700).

The American Institute of Architects has approved this event for 6.5 Learning Units (Sponsor No. J885). Courses approved by the AIA qualify for New Jersey and District of Columbia architects. Only full attendance can be reported to the AIA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, North Carolina, and North Dakota.

This event offers a non-credit continuing education opportunity to construction contractors, but it has not been approved by any state with a continuing education requirement for contractors.

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.

Registration

Foundation Damage and Repair: Science, Materials and Techniques

Amherst, NY - Friday, March 23, 2018

How to Register	Registrant Information
Online: www.halfmoonseminars.org	Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900	Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066	
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
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.
() I need special accommodations. Please contact me.	

Tuition
() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

Checks: Make payable to HalfMoon Education Inc.

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

Credit Card Number: _____

Expiration Date: _____ CVV2 Code: _____

Cardholder Name: _____

Billing Address: _____

City: _____ State: _____ Zip: _____

Signature: _____

Email: _____