

Credit Information

Structural Forensic Engineering

This webinar offers 6.5 PDHs to professional engineers and 6.5 HSW continuing education hours to architects licensed in all states.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York architects and engineers via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner §68.14(i)(2) and §69.6(i)(2)). Other states do not preapprove continuing education providers or courses.

The American Institute of Architects Continuing Education System has approved this course for 6.5 LU | HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .65 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Completion certificates will be awarded to participants who complete this event, respond to all prompts, and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

Foundations in Cold Regions

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Can't Attend? Order the Webinar as a Self-Study Package!

Recordings of each webinar are available for purchase. See course listing online 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. Self-study packages do not qualify for AIA credit.

Live, Interactive Webinars

- Structural Forensic Engineering
- Foundations in Cold Regions

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PO Box 278
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Live, Interactive Webinars

Structural Forensic Engineering

- Monday, September 20, 2021 | 8:30 am - 4:30 pm CDT

Foundations in Cold Regions

- Thursday, September 23, 2021 | 11:00 am - 2:15 pm CDT

- Friday, September 24, 2021 | 11:00 am - 2:15 pm CDT

To register, view detailed presenter biographies,
and see other learning opportunities, please visit:

www.halfmoonseminars.org

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AIA: 6.5 LU | HSW International Code Council: .65 CEUs (Building)



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AIA
Continuing
Education
Provider



Structural Forensic Engineering

Monday, September 20, 2021 | 8:30 am - 4:30 pm CDT (incl. a 60-min break)

Tuition: \$289 per registrant, \$239 per registrant for three or more

Credits: Professional Engineers: 6.5 PDHs Architects: 6.5 HSW CE Hours
AIA: 6.5 LU|HSW International Code Council: .65 CEUs (Building)

Agenda

Examining the Role of Forensic Engineering

- Introductions and backgrounds
- Definition of forensics and structural failure
- Causes and consequences of structural failures
- Importance of good design
- Impact of codes and standards
- Legal and economic impacts of failures
- Results and consequences of forensic engineering

Understanding the Forensic Engineering Process

- Documenting the failure
- Conducting investigation and research
- Test protocols and tests
- Determining causation and responsibility
- Learning from failure

Preparing and Reviewing Forensic Engineering Reports

- Identifying the report's purpose and its audience
- Examining content
- Organizing the report
- Evaluating sample reports

Understanding Causes of Structural Failures

- Design errors
- Construction errors
- Excessive loadings
- Material deficiencies, deterioration, and degradation
- Testing for material issues

Forensic Examination of Structures

- Investigation of steel structures
- Investigation of wood structures
- Investigation of concrete structures
- Investigation of masonry and building facades

Using Forensic Engineering Information in Litigation

- Presenting forensic engineering information as an expert witness
- Offering testimony as an expert witness

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Agenda Day One

Introduction to Cold Regions Foundations

- Introduction to frozen ground
- Physical, thermal, and mechanical properties of soils
- Heat flow in soils
- Ground thermal regime
- Foundation design approaches

Shallow Foundation Design in Cold Regions

- Shallow foundation design and the thermal state
- Shallow foundation design for bearing capacity
- Shallow foundation design for settlement
- Mitigation of frost heave on shallow foundations

Agenda Day Two

Deep Foundation Design in Cold Regions

- Pile design philosophy
- Types of piles
- Axial pile design
- Lateral pile design
- Other considerations – downdrag, dynamic loads, frost heave

Foundation Construction in Cold Regions

- Working in the cold
- Construction and the long term thermal regime
- Construction for shallow foundations
- Construction for deep foundations

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Faculty

Structural Forensic Engineering

Victor Popp *Principal, VPop Inc.*

Mr. Popp is a licensed professional engineer in New York, Massachusetts, Connecticut, Maine, New Hampshire, Rhode Island and Colorado. He also holds an unrestricted construction supervisor and home inspector license (in Massachusetts). Mr. Popp provides expert technical consulting services based on over three decades of broad-based mechanical and structural engineering experience. He has developed state-of-the-art custom machinery, structures and systems, and he has performed engineering management and consulting services for a wide variety of clients, applications, and industries. These include the consumer, aerospace, materials, testing, biomedical, automotive, and construction markets. Mr. Popp has experience in state-of-the-art design and manufacturing, in production and research and development environments. He has also performed forensic and failure analysis investigations of material and product failures as well as structural engineering analysis. Mr. Popp holds a master's of science degree in Administrative Studies from Boston College, a bachelor of science degree in Mechanical Engineering from the University of Massachusetts, and a certificate in Engineering Management Development from Worcester Polytechnic Institute. He has also completed other PhD and master's level engineering course work including bio-mechanical engineering, CAD, thermodynamics, and numerical analysis at UMASS and at Northeastern University. As a result of his extensive professional experience and education, Mr. Popp has been an invited presenter at the University of Fair Haven's Graduate School of Forensic Engineering and at the National Academy of Forensic Engineers Annual Convention.

Foundations in Cold Regions

Steven Halcomb *Geotechnical Engineer, CRW Engineering Group, LLC*

Mr. Halcomb, P.E., G.E., has over 13 years of geotechnical and cold regions engineering experience and is currently employed by CRW Engineering Group, LLC in Anchorage, Alaska. He regularly oversees geotechnical efforts on projects ranging from several hundred thousand to multi-million dollars in various environments including the arctic, subarctic, and marine. He has experience in shallow and deep foundation design, construction, and inspection, including pile driving analyzer, and he has worked in ideal and adverse conditions including liquefiable and expansive soils and frozen ground. In addition, his geotechnical knowledge includes site planning and investigations, laboratory testing, slope stability, geotechnical earthquake engineering, ground improvement, earth retaining structures, reinforced soil and geosynthetics, braced and unbraced excavations, pavement design, construction testing, observation and monitoring, foundations in frozen ground, and thermal analyses. He is a member of the American Society of Civil Engineers and the Geo-Institute. He earned his B.S. and M.S. degrees in Arctic Engineering, and his M.C.E. and Earthquake graduate certificate from the University of Alaska Anchorage.

Additional Learning

How To Handle Ethical Issues Associated with Defects and Failures

- Tues, Aug 24, 2021 | 9:00 - 11:00 am CDT

Designing for Accessibility under ADA Standards and IBC

- Tues, Aug 24, 2021 | 8:30 am - 12:15 pm CDT
- Wed, Aug 25, 2021 | 8:30 am - 12:15 pm CDT

International Building Code 2021

- Thurs, Aug 26, 2021 | 10:00 am - 2:30 pm CDT
- Fri, Aug 27, 2021 | 10:00 am - 1:30 pm CDT

Residential and Small Commercial Solar Photovoltaic Energy Systems

- Fri, Aug 27, 2021 | 8:30 am - 4:30 pm CDT

Handling Ethical Issues in Construction

- Tues, Aug 31, 2021 | 3:00 - 5:00 pm CDT

Foundation Damage and Repair: Science, Materials and Techniques

- Fri, Sept 10, 2021 | 9:30 am - 5:00 pm CDT

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