

# Agenda

*Presented by: Casey Hemmatyar*

## Examining the Role of Forensic Engineering

- 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 the Forensic Engineering Report

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

## Understanding Causes of Structural Failures

- Lessons learned from historic failures
- Design errors
- Defective construction
- Material deficiencies
- Excessive loadings
- Deterioration and degradation

## Forensic Examination of Structures

- Investigation of steel structures
- Investigation of wood structures
- Investigation of concrete structures
- Investigation of masonry and building facades
- Load testing and instrumentation of existing structures

**Structural Forensic Engineering**  
Boise, ID - Wednesday, November 13, 2019



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Altoona, WI 54720-0278

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## Learning Objectives

### *You'll be able to:*

**Review** the impact of codes and standards on structures.

**Determine** the legal and economic consequences of structural failures.

**Describe** the forensic engineering process, including investigation, research and determination of causality.

**Identify** the most common causes of structural failures, including design errors, defective construction, material deficiencies, excessive loading, and deterioration.

**Identify** appropriate procedures for investigating the condition of steel, wood, concrete and masonry structures.



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# Structural Forensic Engineering

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**Understand** the role of forensic engineering

**Identify** the contents of forensic engineering reports

**Examine** the causes of structural failures

**Discuss** tests and test protocols

**Learn** lessons from historic failures

**Explore** the importance of good design

## Continuing Education Credits

### **Professional Engineers**

6.0 PDHS

### **Architects**

6.0 HSW Continuing Ed. Hours

6.0 AIA LU|HSW

### **Construction Contractors**

Non-Credit Continuing Ed.



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**AIA**  
Continuing  
Education  
Provider

# Faculty

**Casey Hemmatyar** *Forensic Structural, Civil Engineer and Expert Consultant with Pacific Structural and Forensic Engineers Group (PSFEG Inc)*



Mr. Hemmatyar has over three decades of experience and has provided extensive services for defendants' and plaintiffs' attorneys on construction litigation matters in single and class-action lawsuits at both the state and federal levels. His understanding of core legal concepts has enabled him to effectively assist his attorney clients. Mr. Hemmatyar brings diversified experience in structural and civil engineering design, forensic engineering, investigation and evaluation. He also conducts research and he has assisted in development of building codes and standards and has supervised construction of domestic and international projects. Mr. Hemmatyar's experience includes specialized structures and new buildings as well as modifications, alterations, seismic/hurricane retrofits and upgrades to existing structures. He has provided failure analysis, expert consultation, structural forensic investigation and damage assessment services for many litigation and insurance related matters. Mr. Hemmatyar has been invited to lecture and present engineering seminars for structural engineers throughout the United States. He has been the principal structural engineer on projects for clients such as NASA and several other high-profile agencies. Currently he directs PSFEG and has served as director for SEAOSC in 2011-2013. Mr. Hemmatyar's assignments include facilities

including schools/higher education, telecommunication, hospitals/healthcare, government, recreational, laboratories, commercial, industrial and residential structures. He is versed in the structural design of concrete, steel, timber/wood, masonry, aluminum, glass, light-gage steel and other construction materials. Mr. Hemmatyar's work experience covers performance-based design, seismic hazard evaluation and mitigation methods as well as preparation of reports evaluating essential structures such as hospitals and health care facilities. He has been interviewed by public media including H2 History Channel (episode: "Collapse of Ancient Structures") and KFI AM 640 Los Angeles (2016 Berkeley CA balcony collapse). Mr. Hemmatyar has provided many technical lectures, presentations and webinars to the structural, architectural and building official communities.

### Here's what past attendees had to say about the program and presenter Casey Hemmatyar:

"Real world case studies helpful." - *Engineer*  
"Explained concepts well." - *Architect*  
"Well organized." - *Engineer*

# Seminar Information

**Hampton Inn & Suites Boise**  
7499 West Overland Road  
Boise, ID 83709  
(208) 323-2500

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 - 4:00 pm

### Tuition

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

*Each registration includes a 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 6.0 PDHs to professional engineers and 6.0 HSW continuing education hours to architects in all states. Educators and courses are not subject to preapproval in Idaho.

The American Institute of Architects Continuing Education System has approved this event for 6.0 LU|HSW (Sponsor No. J885). Courses approved by the AIA qualify for Idaho architects. Only full attendance can be reported to the AIA/CES. Visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org) for complete AIA/CES information under this course listing.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Maryland, New Jersey (Approval No. 24GP0000700), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and architects.

This program also offers a non-mandatory continuing education opportunity to construction contractors. It has not been approved by any contractor licensing board with a 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.

# Additional Learning

### Webinar Series

#### Wetlands Law and Compliance

- **Understanding Wetlands Laws and Enforcement**  
Wed., September 25, 2019, 11:00 AM - 1:00 PM CDT
- **Identifying Wetlands and Streams**  
Wed., September 25, 2019, 1:30 - 2:30 PM CDT
- **Obtaining Wetland Permits and the Certification Process**  
Thurs., September 26, 2019, 11:00 AM - 12:30 PM CDT
- **Trends and Opportunities in Wetland Preservation, Restoration, Creation and Enhancement**  
Thurs., September 26, 2019, 1:00 - 3:00 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		Registrant Information
<b>Online:</b> <a href="http://www.halfmoonseminars.org">www.halfmoonseminars.org</a>		Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____
<b>Phone:</b> 715-835-5900		<b>Additional Registrants:</b> Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Fax:</b> 715-835-6066		Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Mail:</b> HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Complete the entire form.</b> 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 - **\$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**.  USB/Manual Package **\$289.00**.(Please allow four weeks from seminar date for delivery)

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

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

Credit Card Number: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_ CV2 Code: \_\_\_\_\_  
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