

# Agenda

*Presented by*  
**Maureen L. Davis, PE; Ed Haight, PhD, PE; Frank Davis, EIT**

## Designing and Constructing to Prevent Failures

- Importance of standards and codes
- Design professional duties and the design process
- Understanding the standard of care
- Legal and economic impacts of failures
- Purpose of forensic engineering

## Understanding Causes of Structural Failures

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

## Understanding the Forensic Engineering Process

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

## 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

## After the Forensic Investigation: The Dispute and Its Resolution

- Your role in the dispute: engineers, architects and contractors as experts
- Types of dispute resolution: settlement conferences, mediations, arbitrations, and court proceedings
- Managing your part of the dispute after it's over

**Forensic Engineering in  
the Construction Industry**  
Atlanta, GA - Tuesday, July 16, 2019



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## Learning Objectives

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

**Review** the duties of design professionals and understand the standard of care.

**Explore** the legal and economic impacts of building failures.

**Examine** the causes of structural failures, including design errors, material deficiencies and excessive loading.

**Discuss** the forensic engineering process, including investigation, research and testing.

**Examine** steel, wood, concrete and masonry failures.

**Explore** the role of forensic engineering in the resolution of failure-related disputes.



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# Forensic Engineering in the Construction Industry

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**Understand** the causes of structural failures

**Identify** the importance of standards and codes

**Examine** different types of structures

**Discuss** the forensic engineering process

**Learn** from structural failures

**Explore** types of dispute resolution

## Continuing Education Credits

### **Professional Engineers**

7.0 PDHs

### **Architects**

7.0 Public Protection PDUs/HSW CE hours

7.0 AIA HSW Learning Units

### **Contractors**

Non-Credit Continuing Ed.



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**Maureen L. Davis, PE** *Principal at Haight Davis & Associates, Inc.*  
Ms. Davis is a consulting engineer with extensive experience in the field of construction. Her forte is investigative and forensic engineering. More particularly, she specializes in construction defect evaluations, construction management, structural failure analysis, repair specifications for defective buildings, water leakage of buildings, and litigation support in construction disputes, including expert witness testimony. Ms. Davis has testified in more than 100 trials, depositions and arbitrations and is often utilized as a third party engineer in disputes. Ms. Davis received both her bachelor of science and master of science degrees in Civil Engineering (Construction Option) from North Carolina State University located in Raleigh, North Carolina. She is a veteran of the US Army, having spent 17 years on active and reserve status. She is a registered professional engineer in the state of Georgia and is a Level II design professional with the Georgia Soil and Water Conservation Commission (GSWCC). Ms. Davis is a member of American Society of Civil Engineers (ASCE), the National Academy of Forensic Engineers (NAFE), the Society of American Military Engineers (SAME), the Georgia Society of Professional Engineers (GSPE), the National Society of Professional Engineers (NSPE), and the Institute of Roofing (RCI). Ms. Davis is also an ASTM International E-58 Committee member and a member of Order of the Engineer and Chi Epsilon Civil Engineering Honor Society.

**Edward C. Haight, PhD, PE** *Consultant with Haight Davis & Associates, Inc.*  
Dr. Haight has been a consulting engineer for most of his professional life. Although he is now semi-retired, he continues to share his vast knowledge of construction by teaching seminars and serving as a consultant for various organizations. He obtained a bachelor of science degree in

Civil Engineering and a master of science degree in Engineering Mechanics from Louisiana State University. He obtained his PhD degree in Engineering Mechanics from Georgia Technical Institute. As a result of his experience in owning building and development companies in Louisiana and Georgia for over 17 years, he offers expert witness testimony in a number of areas in those fields, all of which involve construction technology. His specialty is construction defect claims. He has testified in over 250 trials, arbitrations, and depositions, and has served as both a mediator and an arbitrator in construction disputes.

**Frank Davis, EIT** *Project Manager with Haight Davis & Associates, Inc.*  
Mr. Davis graduated from Georgia Technical Institute in 2010 with a bachelor of science degree in Civil Engineering and serves as a project manager with Haight Davis & Associates, Inc. The majority of his experience, however, comes from over 20 years in the construction industry. Mr. Davis was originally trained as a construction equipment operator in both the US Navy and the US Army, starting in 1990, but was soon promoted to a supervisory position, directing and managing construction projects in various countries. After serving on active duty for over 10 years, Mr. Davis worked as a construction foreman and a superintendent in the Atlanta area, gaining more hands-on skills in the field of construction. His practical knowledge of construction and engineering issues has provided him with a solid foundation as an engineer. Mr. Davis is a member of the American Society of Civil Engineers (ASCE), the Georgia Society of Professional Engineers (GSPE), the National Society of Professional Engineers (NSPE), and the Institute of Roofing (RCI), and he is a Level II design professional with the Georgia Soil and Water Conservation Commission (GSWCC).

## Seminar Information

**Hyatt House/Cobb Galleria**  
3595 Cumberland Blvd. SE  
Atlanta, GA 30339  
(770) 541-2960

**Tuition**  
**\$289** for individual registration  
**\$269** for three or more registrants from the same company at the same time.

**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 7.0 PDHs to professional engineers and 7.0 Public Protection PDUs/HSW continuing education hours to architects in most states. Educators and courses are not subject to preapproval in Georgia.

This event has been approved by the American Institute of Architects for 7.0 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), North Carolina, and North Dakota.

This course offers a non-credit continuing education opportunity to construction contractors. It has not been approved by any contractor licensing board for mandatory continuing education.

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**
- International Existing Building Codes**
- **Working with the International Existing Building Code**  
Thurs., June 20, 2019, 11:00 AM - 12:30 PM CDT
  - **Chapters 3, 4 & 6**  
Thurs., June 20, 2019, 1:00 - 3:00 PM CDT
  - **Chapters 7-10: Alterations and Occupancy**  
Fri., June 21, 2019, 11:00 AM - 1:00 PM CDT
  - **Chapters 11, 12 and 14: Additions and Historic Buildings**  
Fri., June 21, 2019, 1:30 - 3:00 PM CDT

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

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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

### Forensic Engineering in the Construction Industry

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| How to Register                                                                          |                              | Registrant Information                                                                                                                                                                                                        |
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| <b>Phone:</b><br>715-835-5900                                                            | <b>Code:</b><br>715-835-6066 | <b>Additional Registrants:</b><br>Name: _____<br>Occupation: _____<br>Email: _____<br>Phone: _____<br>Name: _____<br>Occupation: _____<br>Email: _____<br>Phone: _____                                                        |
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| Tuition                                                                                                                                                                                                                                                                                                 |
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| ( ) <b>I will be attending the live seminar.</b> Single Registrant - <b>\$289.00</b> . Three or more registrants from the same company registering at the same time - <b>\$269.00</b> each.                                                                                                             |
| ( ) <b>I am not attending.</b> Please send me the self-study package:<br><input type="checkbox"/> Downloadable MP3 Audio/PDF Manual for <b>\$269.00</b> .<br><input type="checkbox"/> CD/Manual Package for <b>\$289.00</b> .<br>(S&H included. Please allow five weeks from seminar date for delivery) |
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