

# Agenda

*Presented by Jon F. Sfura, Ph.D., P.E., S.E.*

## Seismic Design and Construction Day One

Thursday, October 1, 2020 | 11:00 am - 3:00 pm CDT (including a 15-min. break)

### Seismology and Earthquake Actions

- Earthquake characteristics
- Effects of soil conditions
- Western, central, and eastern U.S. seismicity

### Structural Dynamics and Response

- Ground motions and structural response
- Response spectra
- Damping
- Modal superposition analysis

### Modern Philosophy of Seismic Design

- Seismic design objectives
- Inelastic response and ductility
- Proportioning

### U.S. Seismic Codes

- History
- Performance objectives
- Hazard levels

## Seismic Design and Construction Day Two

Friday, October 2, 2020 | 11:00 am - 2:30 pm CDT (including a 15-min. break)

### ASCE 7 Seismic Design

- Mapped spectral response
- Design response spectrum
- Seismic design category and design factors
- Seismic force resisting systems
- Estimating period
- Structural irregularities
- Equivalent lateral force procedure
- Load combinations, overstrength, redundancy
- Diaphragms and shear walls
- Deflection limitations

### Material-Specific Seismic Force Resisting Systems

- International Building Code (IBC) provisions
- American Institute of Steel Construction (AISC 341) provisions
- American Concrete Institute for Structural Concrete (ACI 318) provisions
- American Concrete Institute for Masonry Structures (ACI 530) provisions

## Seismic Design and Construction

Online - Thursday, October 1, 2020 and Friday, October 2, 2020

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## Learning Objectives

### You'll be able to:

**Understand** earthquake actions and consider the effect of soil conditions.

**Explore** structural dynamics and response.

**Discuss** the modern philosophy of seismic design and identify seismic design objectives.

**Review** seismic design requirements in U.S. building codes.

**Examine** ASCE 7 standards for seismic design.

**Review** specific provisions for seismic force resisting systems in steel, wood, concrete and masonry structures.



HalfMoon Education Online Learning

# Seismic Design and Construction

*Live, Interactive Webinar Series*

*Thursday, October 1 and Friday, October 2, 2020*



**Review** seismology and earthquake actions

**Understand** structural dynamics and response

**Discuss** the modern philosophy of seismic design

**Review** U.S. seismic design codes standards

**Examine** ASCE 7 seismic design standards

**Explore** material-specific seismic force resisting systems

### Continuing Education Credits

#### Professional Engineers

7.0 PDHs

#### Architects

7.0 HSW CE Hours

#### AIA

7.0 LU|HSW

#### International Code Council

.7 CEUs (Building)

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# Faculty

**Jon F. Sfura, Ph.D., P.E., S.E.**  
*Senior Associate at Wiss, Janney, Elstner Associates, Inc. in Northbrook, Illinois*  
Dr. Sfura is a senior associate at Wiss, Janney, Elstner Associates, Inc. in Northbrook, Illinois. His experience includes the assessment of structural distress and serviceability problems, the investigation of structural failures, peer review, and the rehabilitation of structures. He has published and lectured on seismic design and performance, and the assessment and rehabilitation of structures.

Dr. Sfura received his B.S. degree in Civil Engineering from Purdue University, and his M.S. and Ph.D. degrees in Civil Engineering from the University of Illinois. He studied the nonlinear seismic response of asymmetric steel structures to earthquake ground motions as a doctoral candidate. He is a licensed structural engineer in Illinois, a civil engineer in California, and a professional engineer in Florida and Michigan. He is a member of the Building Seismic Safety Council (BSSC), the Earthquake Engineering Research Institute (EERI), and the Structural Engineers Association of Illinois (SEAOI).

Wiss, Janney, Elstner Associates, Inc. is an employee-owned interdisciplinary firm with 19 offices across the United States. Its team of structural engineers, architects, and material scientists use problem solving and a hands-on technical approach to construction challenges, with virtually every construction material, structural system, and architectural component.

# Webinar Information

**Day One: Thursday, October 1, 2020**  
11:00 am - 3:00 pm CDT (including a 15-min. break)

**Day Two: Friday, October 2, 2020**  
11:00 am - 2:30 pm CDT (including a 15-min. break)  
*(please log into the webinar 15 - 30 minutes before start time)*

**Tuition**  
**\$299** for individual registration  
**\$199** for three or more registrants from the same company at the same time.  
**Included with your registration:** *PDF seminar manual.*

**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

Webinars are presented via GoToWebinar. Instructions and login information will be provided in an email sent close to the date of the webinar. For more information, please visit our FAQ section of our website, or visit [www.gotowebinar.com](http://www.gotowebinar.com).

**Cancellations:** Cancel at least 48 hours before the start of the webinar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another webinar or the self-study package. You may also authorize another person to take your place.

# Additional Learning

**2018 International Residential Code: Structural Construction**  
- Fri., Sept. 25, 2020 | 11:00 am – 3:30 pm CDT

**Parking Structure Design, Construction and Maintenance**  
- Tues., Sept. 29, 2020 | 11:00 am - 3:00 pm CDT  
- Wed., Sept. 30, 2020 | 11:00 am - 2:30 pm CDT

**Project Management Fundamentals for Engineers**  
- Tues., Sept. 29, 2020 | 8:30 am - 4:00 pm CDT

**Passive House: Planning, Design and Construction**  
- Tues., Sept. 29, 2020 | 9:30 am - 5:00 pm CDT

**Special Inspections under the International Building Code Chapter 17**  
- Tues., Sept. 29, 2020 | 8:30 am - 4:00 pm CDT

## Continuing Education Credit Information

This webinar offers 7.0 PDHs to professional engineers and 7.0 HSW continuing education hours to architects 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), North Carolina (S-0130), and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and architects 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 7.0 LU|HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .7 CEUs in the specialty area of Building (Preferred Provider No. 1232).

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

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

Recordings of this webinar are available for purchase. 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.

**Structural Forensic Engineering**  
- Tues., Sept. 29, 2020 | 8:30 am - 4:30 pm CDT

**The Tree Course: Science, Design, and Sustainability**  
- Wed., Sept. 30, 2020 | 8:30 am - 4:00 pm CDT

**Site Design**  
- Wed., Sept. 30, 2020 | 7:30 am - 4:00 pm CDT

**Stormwater Best Management Practices**  
- Wed., Sept. 30, 2020 | 8:30 am - 5:00 pm CDT

**Tracking the Railroads**  
- Wed., Sept. 30, 2020 | 11:00 am – 4:00 pm CDT

**Geodetic Datums: Fundamentals and New Developments**  
- Thurs., October 1, 2020 | 10:30 am - 3:15 pm CDT  
- Fri., October 2, 2020 | 10:30 am - 2:45 pm CDT

For more information and other online learning opportunities visit:  
[www.halfmoonseminars.org/webinars/](http://www.halfmoonseminars.org/webinars/)

# Registration

## Seismic Design and Construction

Live, Interactive Webinar - Thursday, October 1, 2020 and Friday, October 2, 2020

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**Tuition**

( ) **I will be attending the live webinar.** Single Registrant - **\$299.00**. Three or more registrants from the same company registering at the same time - **\$199.00** each.

( ) **I am not attending.** Please send me the webinar recording:

☐ Streamable MP4 Video/PDF Manual for **\$279.00**.

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