Agenda

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

Seismology and Earthquake Actions
- Earthquake characteristics
- Effects of soil conditions
- Western, central, and eastern U.S. seismicity
- Seismic activity on the east coast of the United States

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

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

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Seismic Design and Construction
Live, Interactive Webinar - Thursday, January 27, 2022

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

Learning Objectives

You'll be able to:

Review the science of seismology, and discuss structural response to ground motions.

Describe the modern philosophy of seismic design, and discuss the performance objectives of U.S. seismic codes.

Comply with the provisions of ASCE 7's seismic design standard.

Explore the use of seismic force resisting systems, and discuss the construction of diaphragms and shear walls in accordance with ASCE 7.

Review material-specific seismic force resisting systems for wood, steel, concrete and masonry buildings.

HalfMoon Education Live Webinars

Seismic Design and Construction

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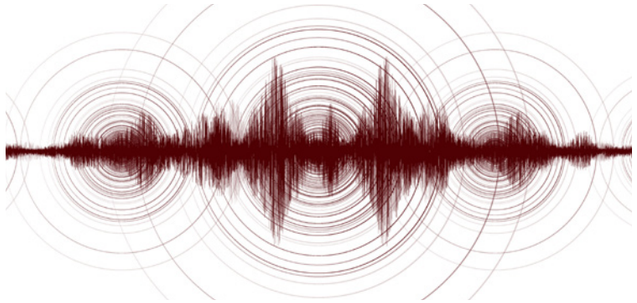

Explore seismology and earthquake actions

Learn about structural dynamics and response

Study modern philosophy of seismic design

Examine US seismic codes

Discuss ASCE 7 seismic design

Explore material-specific seismic force resisting systems

Continuing Education Credits

Professional Engineers
7.5 PDHs

Architects
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7.5 AIA LU|HSW

International Code Council
.75 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's experience includes the assessment of structural distress and serviceability problems, investigation of structural failures, and rehabilitation of structures. He has published and lectured on seismic design and performance, the assessment of structures, structural failures, and the 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, civil engineer in California, and professional engineer in Florida and Michigan. He is a member of 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 uses problem solving and a hands-on technical approach to construction challenges, with virtually every construction material, structural system, and architectural component.

Additional Learning

Soil Mechanics, Bearing Capacity and Slope Stabilization
- Fri, Dec 17, 2021|8:30 am - 4:30 pm CST

International Building Code 2021
- Fri, Dec 17, 2021|8:30 am - 5:00 pm CST

National Electrical Code 2020
- Tues, Dec 28, 2021|8:30 am - 5:00 pm CST

Focus on The Evolution of Turf Reinforcement Mat Technology
- Wed, Dec 29, 2021|10:00 am - 12:00 pm CST

Managing Construction Projects
- Wed, Dec 29, 2021|8:30 am - 4:30 pm CST

Parking Structure Design, Construction, and Maintenance
- Wed, Dec 29, 2021|8:00 am - 3:30 pm CST

Structural Forensic Engineering
- Wed, Dec 29, 2021|10:00 am - 1:45 pm CST
- Thurs, Dec 30, 2021|10:00 am - 1:45 pm CST

Residential and Small Commercial Solar Photovoltaic Energy Systems
- Thurs, Dec 30, 2021|8:30 am - 4:00 pm CST

Designing for Accessibility under ADA Standards and 2021 IBC
- Tues, Jan 11, 2022|8:30 am - 4:30 pm CST

Technical Writing Workshop for Design Professionals
- Wed, Jan 12, 2022|8:30 am - 5:00 pm CST

IRC Significant Changes – Chapters 1-10
- Thurs, Jan 13, 2022|11:00 am - 3:30 pm CST

Handling Ethical Issues in Construction
- Tues, Jan 18, 2022|3:00 - 5:00 pm CST

Metes and Bounds Land Description Workshop
- Tues, Jan 18, 2022|10:00 am - 4:00 pm CST

For more information and other online learning opportunities visit: **www.halfmoonseminars.org**

Webinar Information

Log into Webinar
8:00 - 8:30 am CST

Break
12:30 - 1:30 pm CST

Morning Session
8:30 am - 12:30 pm CST

Afternoon Session
1:30 - 5:00 pm CST

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This webinar offers 7.5 PDHs to professional engineers and 7.5 HSW continuing education hours to architects in all states.

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The American Institute of Architects Continuing Education System has approved this course for 7.5 LU|HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .75 CEUs in the specialty area of Building (Preferred Provider No. 1232).

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

Registration

Seismic Design and Construction

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