Seminar Agenda

Presented by Peter J. Arsenault, FAIA, NCARB, LEED® AP

Fundamentals of Sound
Sound in the environment
- Sound versus noise
- Impacts on people
Principles of sound generation sources
- Loudness: measured in Decibels
- Frequency: measured in Hertz
Sources and characteristics of sound in a building
- Exterior sources: common and unique
- Interior sources: human, equipment, other
Sound control as a standard of design
- ANSI S12.60 for schools
- LEED credits for acoustic control

Principles of Sound Control within a Space
Sound reflection and absorption
- Reverberance and reverberation time
- Sound absorption and noise reduction coefficients
Speech Intelligibility and sound quality
Techniques to improve performance with case study examples

Principles of Sound Attenuation between Spaces
Sound transfer control
- Exterior and interior walls: outdoor-indoor transmission class (OITC) and sound transmission class (STC)
- Floors: impact insulation class (IIC)
- Ceilings: ceiling attenuation class (CAC), articulation class (AC) and Sabins
- Mechanical equipment sound
Techniques to improve performance with case study examples

Applying Sound Principles
Schools: small and large spaces
- Offices: private spaces and open rooms
Healthcare: patient rooms and work areas
Wrap up

Learning Objectives
You’ll be able to:
Examine sound control as a standard of design.
Learn about principles of sound control within a space.
Study sound transfer control between exterior and interior walls, floors and ceilings.
Use case studies to explore techniques for improving acoustical performance.
Apply sound control principles to small rooms and large spaces in schools, offices and healthcare settings.

Acoustical Design in Buildings: Principles to Improve Performance

Greensboro, NC
Tuesday, August 18, 2015

Learn about exterior and interior sound generation sources in a building
Examine sound control as a standard of design
Explore principles of sound control within a space, including sound reflection and absorption
Examine sound transfer control between exterior and interior walls, floors, ceilings, and mechanical equipment
Use case studies to review techniques for improving performance
Apply sound control principles to private spaces, open rooms and work areas in schools, offices and healthcare settings

Continuing Education Credits
Architects
- 6.5 HSW Contact Hours
- 6.5 AIA HSW Learning Units
Professional Engineers
- 6.5 PDHs
Contractors
- Non-Mandatory Cont. Ed.
About the Seminar

Peter J. Arsenault, FAIA, NCARB, LEED® AP \textsuperscript{Principal at Peter J. Arsenault, Architect}

Mr. Arsenault is a registered architect and sustainability consultant based in Greensboro, North Carolina. A 1977 graduate of Syracuse University, he simultaneously earned degrees in both Architecture and Engineering with an emphasis on urban design and environmental planning. He has focused his work on technical aspects of design including the principles of energy flows and livability in buildings, and including principles of acoustical energy and its impact on people. Mr. Arsenault has managed design teams and brought technical design principles to notable projects throughout the country with prominent contractors, government agencies, not-for-profit associations, and private clients. His career of more than 37 years includes diversified experience in design, consulting, and planning for government agencies, education facilities, health care operators, neighborhood organizations, and religious institutions.

As a sought-after speaker and author, Mr. Arsenault has presented at numerous state, regional and national seminars and conferences, on topics related to building technology and systems that improve performance and comply with the latest codes and standards. He also presents on green building rating systems such as the LEED program which includes new prerequisites and credits for acoustical performance. Mr. Arsenault is the author of over 100 continuing education articles published in print and online in national professional magazines, including articles on acoustical performance in buildings. He has also contributed to numerous journals, magazines, and books.

Mr. Arsenault has been active in the American Institute of Architects (AIA) since becoming a member in the 1980’s, recently completing a 3 year term on the National Board of Directors and a two-year term as national vice president. He has been an active member of the AIA Community by Design programs serving as team leader for multiple Sustainable Design Assessment Team (SDAT) programs around the country. He is also a past president of the New York State and Central New York Components of the AIA. Mr. Arsenault is a member of the US Green Building Council currently serving as vice chair of the Piedmont Triad Branch of the North Carolina Chapter, and he is the founding chapter president of a green community advocacy organization known as Greening USA.

Summer Webinar Series

Complying with Energy Conservation Codes Webinar Series

- Energy Conservation Code and COMcheck Introduction
  Wed., June 24\textsuperscript{th}, 2015, 12:00 - 2:00 PM EDT
- Energy Conserving Building Envelopes
  Wed., June 24\textsuperscript{th}, 2015, 2:30 - 4:30 PM EDT
- Heating, Ventilating and Air Conditioning Systems
  Thurs., June 25\textsuperscript{th}, 2015, 12:00 - 1:30 PM EDT
- Service Water Heating, Power and Plumbing
  Thurs., June 25\textsuperscript{th}, 2015, 2:00 - 3:30 PM EDT

SketchUp for Building Professionals

- SketchUp Concepts and Basics: Wed., July 15\textsuperscript{th}, 2015, 12:00 - 1:30 PM EDT
- Build a Basic SketchUp Model: Fri., July 17\textsuperscript{th}, 2015, 12:00 - 1:30 PM EDT
- Controlling the SketchUp Model: Wed., July 22\textsuperscript{nd}, 2015, 12:00 - 1:30 PM EDT
- Building Terrain and Adding a Background to a SketchUp Model: Fri., July 24\textsuperscript{th}, 2015, 12:00 - 1:30 PM EDT
- Geolocation: SketchUp and Google Earth: Wed., July 29\textsuperscript{th}, 2015, 12:00 - 1:30 PM EDT
- SketchUp’s Layout Program: Fri., July 31\textsuperscript{st}, 2015, 12:00 - 1:30 PM EDT

Continuing Education Credit Information

This seminar is open to the public and offers up to 6.5 HSW contact hours to architects and 6.5 PDHs to professional engineers, in most states, including North Carolina. HalfMoon Education is an approved continuing education provider for architects in North Carolina.

This seminar is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Course, approved by the AIA quality for North Carolina architects.

HalfMoon Education is an approved continuing education sponsor for architects in Florida and is deemed an approved continuing education provider for engineers in North Carolina.

This seminar offers a continuing education opportunity to contractors. It has not been submitted for course approval to any state contractor licensing entity.

Attendees 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.

CD/Manual Package: An audio recording of this seminar is available for $278 (including shipping). Allow five weeks from the seminar date for delivery.

For more information visit: www.halfmoonevents.org/webinars/

Registration

Acoustical Design in Buildings: Principles to Improve Performance
Greensboro, NC - Tuesday, August 18, 2015

Faculty

Peter J. Arsenault, FAIA, NCARB, LEED® AP \textsuperscript{Principal at Peter J. Arsenault, Architect}

Tuition

$269 for individual registration
$249 for three or more simultaneous registrations.

Continuing Education Credit Information:

This seminar is approved by the American Institute of Architects (AIA) for 6.5 HSW Learning Units (Sponsor No. J885). Course, approved by the AIA quality for North Carolina architects.

HalfMoon Education is an approved continuing education sponsor for architects in Florida and is deemed an approved continuing education provider for engineers in North Carolina.

How to Register

Online: www.halfmoonevents.org
Phone: 715-835-5900
Fax: 715-835-6066

Seismic Design and Construction

- Effect of Seismic Loads and Applicable Building Codes: Tues., July 28\textsuperscript{th}, 2015, 12:00 - 4:30 PM EDT
- Seismic Design of Buildings: Thurs., July 30\textsuperscript{th}, 2015, 12:00 - 4:30 PM EDT

For more information visit: www.halfmoonevents.org/webinars/

Registration Information

Name: Company/Firm:
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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.

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