# **Agenda**

### Presented by Aaron Bétit and Joseph F. Bridger

#### **Sound Characteristics and Transmission**

Principles of sound generation, transmission, and reception

- Loudness measured in decibels
- Frequency measured in hertz
- Sound versus noise
- Impact of sound on people

#### **Principles of Room Acoustics**

Controlling sound reflection and absorption

- Reverberation
- Sound absorption and noise reduction coefficients

Speech intelligibility and sound quality

#### **Principles of Sound Transfer Between Spaces**

Practical techniques for controlling sound transfer

- 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

Controlling sound from mechanical equipment

Examples of design, materials, and construction techniques to improve control

#### **Providing Acoustical Comfort in Interior Spaces**

Sound in buildings: sources and characteristics

- Exterior sounds
- Interior sounds

Residential buildings

Schools: classrooms and assembly spaces

Offices: private and shared spaces

Healthcare facilities: waiting rooms, exam rooms and workspaces

Commercial and industrial spaces

Designing to control sound

- ANSI S12.60 for schools
- LEED credits for acoustic control

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onstruction day, May 31, 2024

Cons HalfMoon Education Inc. PO Box 278 Altoona, WI 54720-0278 **Design and**Live, Interactive Webinar

Acoustical

Interior



# **Learning Objectives**

#### You'll be able to:

**Understand** principles of sound generation, transmission and reception, and learn how these principles impact the acoustical characteristics of interior spaces.

**Consider** the principles of reverberation and sound absorption, and learn how these can impact speech intelligibility and sound quality.

*Identify* materials and techniques for controlling the transfer of sound between spaces.

**Learn** about methods of providing acoustical comfort in interior spaces, including schools, assembly spaces, offices and industrial spaces.



# HalfMoon Education Inc., **Your LIVE Education Leader Presents**

# **Interior Acoustical Design and Construction**

Live, Interactive Webinar - Friday, May 31, 2024



**Examine** the principles of sound generation, transmission, and reception

**Consider** the principles of room acoustics, including controlling sound reflection and absorption

*Identify* practical techniques for controlling sound transfer

**Discuss** techniques for controlling sound from mechanical equipment

**Learn** how to provide acoustical comfort in interior spaces

# **Continuing Education Credits**

**Professional Engineers** 6.5 PDHs

Architects

6.5 HSW CE Hours 6.5 AIA LU|HSW

International Code Council .65 CEUs (Building)







# **Webinar Information**

Friday, May 31, 2024

Log into Webinar

Break

8:00 - 8:30 am CDT 11:45 am - 12:45 pm CDT

Morning Session 8:30 - 11:45 am CDT **Afternoon Session** 12:45 - 4:30 pm CDT

### **Tuition**

\$339 for individual registration.

**\$309** for two or more registrants from the same company at the same time.

Included with your registration: PDF seminar manual.

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#### Aaron Bétit

Principal Consultant, Stewart Acoustical Consultants in North Carolina Mr. Bétit has been collaborating in the acoustical consulting field for over 27 years, performing work in environmental noise and providing advice for schools, colleges, performing arts centers, television/recording studios, commercial towers, and mixed-use/residential buildings. He earned a bachelor's degree in engineering with an emphasis in Acoustics and Music from the University of Hartford. Mr. Bétit is a contributor to the architectural engineering and construction community and advancement of acoustical consulting for the built environment. He is a member of the National Council of Acoustical Consultants (NCAC) as well as the Acoustical Society of America (ASA).

#### Joseph Bridger

Managing Principal, Stewart Acoustical Consultants in North Carolina
Mr. Bridger has provided architectural acoustics and solutions to building
noise control problems, including room acoustics, isolation, and HVAC noise
design advice over 31 years. He brings to his work the unique perspectives of
a professional musician and strong talents in computer applications as well as
engineering training. Mr. Bridger served on the Board of National Council of
Acoustical Consultants (NCAC) 2011-18 representing individual members and is
now vice president for Finance of NCAC. He is a past chair of the North Carolina
Chapter of the Acoustical Society of America and is currently serving as Treasurer.
As an active member in ASHRAE, Mr. Bridger has helped update of the standard
for the Design of High-Performance Green Buildings.

Both principals have presented several papers to professional society chapter meetings and presented papers at national meetings of ASA NoiseCon and Inter-noise.

# **Additional Learning**

# **Construction Cost Estimating**

- Wednesday, May 8, 2024 | 9:00 am - 4:30 pm CDT

# **Handling Ethical Issues in Construction Contracting**

- Wednesday, May 8, 2024 | 9:00 - 10:00 am CDT

# **Natural Ventilation Principles and Techniques**

- Thursday, May 9, 2024 | 9:00 am - 4:00 pm CDT

# **2021 International Building Code Essentials**

- Friday, May 10, 2024 | 8:30 am - 4:30 pm CDT

# **Building Electrical System Design Based on NEC 2023**

- Monday, May 13, 2024 | 12:00 - 2:00 pm CDT

# **Adding Basements to Existing Buildings**

- Wednesday, May 15, 2024 | 9:00 am - 4:00 pm CDT

# **Credit Information**

This webinar is open to the public and is designed to qualify for 6.5 PDHs for professional engineers and 6.5 HSW continuing education hours for licensed architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) and North Carolina (S-0130). 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 6.5 HSW LUs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .65 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

#### **On-Demand Credits**

The preceding credit information only applies to the live presentation. This course in an on-demand format may not be eligible for the same credits as the live presentation; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate. The following pre-approvals may be available for the on-demand format upon request: 6.5 HSW LUs (AIA)

# **Adding EV Charging Stations to Homes or Businesses**

- Wednesday, May 15, 2024 | 1:00 - 3:00 pm CDT

# **Managing Engineering Liability and Risk**

- Wednesday, May 15, 2024 | 8:30 am - 4:30 pm CDT

# **Building Power System Grounding and Bonding Based on NEC 2023**

- Monday, May 20, 2024 | 12:00 - 2:00 pm CDT

# **Determining Means of Egress Compliance Using the 2021 IBC**

- Monday, May 20, 2024 | 8:30 am - 4:00 pm CDT

# **Managing Solar Gain**

- Tuesday, May 21, 2024 | 9:00 am - 12:20 pm CDT

# **Developments in Fenestration**

- Wednesday, May 22, 2024 | 9:00 am - 12:20 pm CDT

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