



Architects, Shooting Range Designers & Developers Seminar



8 AIA HSW (Health Safety and Welfare) Continuing Education Units

Health and Safety—Air Handling, Fire Code, Acoustical Compliance, Noise Ordinance, Indoor /Outdoor Shooting Range Solutions, OSHA Compliance NIOSH, UFC, UL
\$100 fee includes four plated meals

JOIN US

November 2, 2022

Doubletree Hotel

2100 South Priest Dr.

Tempe, AZ 85282

Sponsored by **TROY ACOUSTICS CORPORATION**
and

**SIEBEIN
ASSOCIATES**



We look forward to meeting you at the **4th Annual Architects, Shooting Range Designers & Developers Seminar** in Tempe, AZ. Accommodation details are below..

Doubletree Tempe

2100 South Priest Drive, Tempe, AZ 85282

Reservations: call Danielle 480-804-5264 : group code **TAC**

Or online:

[Doubletree by Hilton—Tempe](#)

Room Rate: \$129.00

Check in: Tuesday, November 1

Check out: Thursday, November 3

*All room rates are exclusive of applicable state and local taxes.
Tax, as well as Local Occupancy Tax A shuttle is available 24/7 every 15 minutes on the hour You must call

AIA CES with 8 HSW Learning Units

Troy Acoustics Corporation in partnership with Siebein Associates, Inc. which is a registered provider with the American Institute of Architects continuing education system offers credit earned on completion of this program . This will be reported to CES records for AIA members. **Zoom attendees complete a short quiz after each session attended.**

This program is registered with the AIA / CES for continuing professional education. As such, it does not include the content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product. Questions related to specific materials will be answered at the end of each presentation.

RSVP

Limited Seating

Administrative Fees:

\$100.00 (includes meals)

\$50 Zoom attendees (all or some)

PayPal or by check.

Buy Now



Please mail check to

Troy Acoustics Corporation

2580 Sidney Lanier Drive

Brunswick, GA 31525

Questions? call Brooks Roscoe

800-987-3306 Ext. 810

RSVP info@troyacoustics.com



An opportunity to learn how to create a safer environment



Tuesday: Check-in November 1, 2022: Doubletree, Tempe, AZ

Wednesday, November 2, 2022

AM Sessions:

- 7:00—7:30 Full Breakfast at Doubletree, Tempe
- 7:30 —7:45 **Introductions by Bill Bergiadis**, Location: Ballroom
CEO, Troy Acoustics Corporation
- 7:45—8:30 Speaker: Danny Walker, PE, DBIA
Topic: **Shooting Range Architecture and Engineering**
- 8:45—9:30 Speaker: Capt. William Murphy (Ret.), PhD
Topic: **Assessments of Firearms Noise Exposures and Hearing Loss Prevention**
- 9:45—10:30 Speaker: Ning Xiang, PhD
Topic: **Architectural Acoustic Fundamentals and Challenges for Shooting Ranges**
- 10:45—11:30 Speaker: Jeffrey Nielsen, GS-14, DAF; AFCEC/COSC
Topic: **DoD Small Arms Range Design Criteria UFC 4-179-02**
- 11:30—12:00 LUNCH

PM Sessions:

- 12:00—12:45 Speaker: Dwayne Sloan, UL LLC
Topic: **Importance of Third Party Testing and Certification for Shooting Range Buildings**
- 1:00—1:45 Speaker: Miles Hall, Hall-n-Hall, LLC
Topic: **Expecting and Inspecting the Unexpected**
- 2:00—2:45 Speaker: Dale Krupinski
Topic: **Environmental, Health & Safety Design Considerations for Firing Ranges**
- 3:00—3:45 Speaker: Gary Siebein, FASA, FAIA Professor Emeritus
Topic: **State-of-the-Art Design Methods for Indoor and Outdoor Firing Range Acoustics**
- 4:00—4:45 Speaker: Brian Wright
Topic: **Indoor Range Ventilation**
- 4:45—5:30 Speaker: Bill Bergiadis, Troy Acoustics
Topics: **The Criticality of Shooting Range Sound Attenuation.**
- 5:30 Dinner

Speakers (in alphabetical order)

BILL BERGIADIS
MILES HALL
DALE KRUPINSKI, ABIH
CAPTAIN WILLIAM J. MURPHY, Ph.D.
GARY SIEBEIN, PROFESSOR EMERITUS
JEFFREY NIELSEN GS-14, DAF; AFCEC/COSC,
DWAYNE SLOAN, UL LLC
DANNY WALKER, PE, DBIA
BRIAN WRIGHT
NING XIANG, PHD RPI



“ The problem with range noise for police departments are two-fold. First, as neighborhoods grow closer and closer to ranges, the ranges are increasingly perceived as nuisances. Second, officers are realizing that repeated exposure to gunfire on a range leads to stress and possible disability “

Bill Bergiadis
Troy Acoustics Corporation

TOPIC: ACOUSTIC AND DESIGN SOLUTIONS AS IT RELATES TO SHOOTING RANGE NOISE

Bill has extensive experience in shooting range acoustics design for multiple ranges worldwide. Here is a short list of his accolades.

- Successfully designed the USAF ETL 11-18 (Engineering Technical Letter) small arms ranges' acoustics compliance.
- Co-developed the industry accepted acoustic standard for multiple military shooting range facilities based on RT60 testing standards.
- Is a renowned speaker at NRA Range Development Conferences as well as at SHOT Show. He is often called upon as an expert witness for court cases involving shooting range noise attenuation.
- Also developed acoustic designs for major broadcast installations including the Weather Channel, Fox News, WSLS, American Country Countdown and Accuweather.
- Develop acoustical criteria and subsequent designs for shooting ranges that meet all OSHA, ETL 11-18, UFC, military specifications as well as local noise ordinances. Resulting in. reduced cost in the construction of various military and federal and local law-enforcement facilities.

PARTIAL LISTING of related projects:

Firearms & Ammunition firms: Beretta, FN Mfg., Hornady, IWI, Sig Sauer.

Indoor Shooting Ranges: Ankeny Police, Chandler Police, Council Bluffs PD, FBI Quantico, Georgia Gun Club Atlanta, Triangle Shooting Academy, NC.

USACE –United States Army Corp of Engineers: Aberdeen, Fort AP Hill, Fort Bragg, Fort Campbell, Fort Carson, Fort Drum, Fort Lewis, Camp Lejeune MARSOC, Parris Island.

USAF– United States Air Force Ranges: Andrews AFB, Barksdale AFB, Kadena AB, Keesler AFB, Maxwell AFB, Misawa AFB, Patrick AFB, Vance AFB; Whiteman AFB, Wright Patterson AFB, Offutt AFB, Tyndall AFB.

USMC—Unites States Marine Corps: Miramar. Pu’ualoa.

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“His professional focus is fueled by personal passion. As a retired Auxiliary Police Lieutenant for Portsmouth Virginia Police Department, his firsthand experience informs and enhances his public safety practice”

Danny Walker
Clark Nexsen



TOPIC: SHOOTING RANGE ARCHITECTURE AND ENGINEERING

DANNY WALKER

Principal, Clark Nexsen

- Member of the Society of American Military Engineers (SAME)
- Member and Advisory Board Member Volunteer Law Enforcement Officers Alliance (VLEOA)
- Clark Nexsen ranked as a top 10 military design firm by Building Design + Construction
- Enjoys shooting sports and auto racing.
- Retired after serving 30-years as an Auxiliary Police Lieutenant for Portsmouth Virginia Police Department

“We also understand that firearms and police training is a hot-button issue, putting safety at the forefront of our shooting range design effort. With design leaders who have personally served in law enforcement, our public safety team understands the challenges facing law enforcement, military, and commercial agencies today. We partner with our clients to determine which trends are generating the most impact in their situation, from increasing training needs, to budget constraints, to community interest, and develop solutions that enable them to train more effectively in safe range environments.” Clark Nexsen

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Website: www.clarknexsen.com



“ Helping range/retailers around the country improve their operation in a safe manner and keep growing and building the shooting sports. “

Miles Hall
Hall-N-Hall LLC

TOPIC: INSPECTING AND EXPECTING THE UNEXPECTED

MILES HALL

Senior Advisor

- Along with his wife Jayne, were the Founders of H & H Shooting Sports Complex in Oklahoma City. After 35 years of success; sold business in 2016
- Ranked as a top “10 dealer” by most major manufacturers in the shooting sports.
- H&H sold over \$20 million a year and sold 16,000 + firearms a year
- Honored as founding member and past president of the Association of Shooting Ranges, a founding member of the Association of Firearm Retailers, and a past board member of the National Shooting Sports Foundation.
- Named “2004 Retailer of the Year” by Shot Business Magazine and were co-founders of the first P-20 peer review groups in the shooting sports industry.
- In 2004, they were selected for the first Shooting Industry Academy of Excellence “Citizenship Award.”
- H&H received the first “Range of the Year” honor in 2006.
- H&H was the first facility to receive a “5 Star” rating from the National Shooting Sports Foundation.
- Inc. Magazine had selected H&H as one of the fastest growing privately held business in the United States for nine years and is the only gun dealer ever in that list for four of those years.
- They were one of the nation’s largest indoor range and retail center for the shooting sports.

This course will provide guidance for range/retail facilities structure that impacts the health, safety, reliability and longevity of not only the building but the occupants ;and are important in the engineering and development process.

Contact information:

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Web page: www.HallNHall.com



“Safety, health, and welfare must be addressed in the project planning and design phase. Hazards identified during the design of a firing range can be

eliminated or controlled through thoughtful design and engineering. Using a safety by design approach will reduce hazardous exposure and liability.

Anticipating, identifying and controlling hazards in the design phase is easier and more effective than re-designing after a range becomes operational.

In this seminar, you'll review and apply the hierarchy of control system to minimize and/or eliminate common range hazards. “

Dale Krupinski

TOPIC: ENVIRONMENTAL, HEALTH, AND SAFETY DESIGN CONSIDERATIONS FOR FIRING RANGES

DALE KRUPINSKI

Owner—On Target Safety Academy, LLC

Dale has over 20 years of safety and health management experience including for lead/metals remediation and firing range environmental services such as: lead recovery/recycling, lead contamination remediation, range maintenance/improvements, hazardous waste stabilization, sampling, lead dust remediation, lead impacted soil treatment, and compliant site closure. Areas of expertise include OSHA compliance assessments, training, and program development in areas, such as but not limited to, recordkeeping, ventilation, occupational noise, personal protective equipment, respiratory protection, confined spaces, lockout/tagout, powered industrial trucks, machine guarding, electrical safety, and toxic/hazardous substances exposure monitoring.

Education

- B.S. Environmental Health; Bowling Green State University
- M.S. Environmental and Occupational Health Sciences University of Illinois at Chicago

Professional Certifications

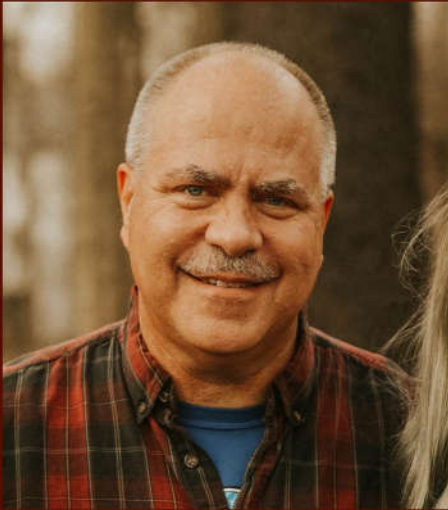
- Certified Industrial Hygienist (ABIH #8578)
- Certified Safety Professional (BCSP #18214)

Employment History

- 2011 – Present: MT2 Senior Consultant providing overall project Safety and Health Management
- 2007 – 2011: Environmental and Occupational Health Services Manager, Federal Prison Industries (UNICOR)
- 2000 – 2007: Industrial Hygienist, US DOL-OSHA: Toledo, Chicago, and Englewood Area Offices, Directorate of Cooperative and State Programs, Office of Outreach Services & Alliances, and Directorate of Construction, Office of Construction Services 1999 – 2000: Industrial Hygienist, Abbott Laboratories: Pharmaceutical Products Division

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TOPIC: MEASUREMENT OF FIREARMS NOISE EXPOSURES AND EVALUATION OF ACOUSTIC TREATMENTS FOR INDOOR AND OUT-DOOR FIRING RANGES

DR. WILLIAM J. MURPHY

Hearing Scientist

Dr. Murphy is a senior scientist with Stephenson and Stephenson Research and Consulting. In 2022, he retired as a Captain in the United States Public Health Service Commissioned Corps. His research is focused on measurement and evaluation of impulse noise, testing and rating of hearing protection devices, and development of audiometric test methods to evaluate the hearing for an occupational setting. He is an active member of the National Hearing Conservation Association and a Fellow of the Acoustical Society of America. He is currently the chair for the ASA's American National Standards Institute (ANSI) Accredited Standards Committee S3 for Bioacoustics and vice-chair for the ASA Committee on Standards.

“A major proponent of proactive hearing loss prevention programs that reduce workplace noise, shifting the focus from documentation of an injury to the prevention of occupation hearing loss”

- Keynote speaker for the 2017 National Hearing Conservation Association conference.
- Authored more than 100 peer-reviewed papers, articles and reports on topics related to hearing loss prevention, noise exposure assessments, and hearing protection devices.
- Co-inventor of the NIOSH HPD Well-Fit™ hearing protector fit-testing system.
- Developer of software for testing hearing protector attenuation.
- Co-designer of the GRAS 67SB blast probe for measuring high level impulse noises.
- Recipient of the USPHS Meritorious Service Medal for his research in impulse noise.
- Recipient of the USPHS Outstanding Service Medal for his work on developing acoustic standards for hearing protection devices.

William J. Murphy, PhD
Captain US Public Health Service
(Retired)

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TOPIC: DOD SMALL ARMS RANGE DESIGN CRITERIA UFC 4-179-02

JEFFREY NEILSEN

Author of ETL 11-18 and coauthor of UFC 4-179-02
Unified Facilities Criteria

Mr. Jeffrey Nielsen from the Air Force Civil Engineer Center (AFCEC) is the author of Engineering Technical Letter (ETL) 11-18 which for the past 20 years has been the design criteria for all Air Force small arms ranges. Mr. Nielsen is also the co-author of the new joint small arms range Unified Facility Criteria (UFC) document UFC 4-179-02 which will replace ETL 11-18 and provide the design criteria for all three Services; including the US Air Force, the US Army and the US Navy which includes the US Marine Corps.

Contact information:

Name	Jeffrey Nielsen,
Title:	GS-14, DAF; AFCEC/COSC, Small Arms Range SME
Agency:	US Air Force
Location:	Tyndall AFB

Jeffrey Nielsen, US Air Force
DAF; AFCEC/COSC
Small Arms Range SME

*Jeffrey Nielsen,
author of ETL 11-18 and
coauthor of
UFC 4-179-02
Unified Facilities Criteria*



“Siebein implemented a long term research agenda to provide a scientific basis for environmental and building acoustic design issues.”

Senior Principal and
Professor Emeritus,
Architecture and Acoustics
University of Florida

TOPIC: STATE-OF-THE-ART DESIGN METHODS FOR INDOOR OUTDOOR FIRING RANGE ACOUSTIC

GARY W. SIEBLIN

Senior Principal Consultant,

Gary has worked on over 2,175 architectural and environmental acoustics projects around the world and conducted NSF-sponsored research in building acoustics through his Architecture Technology Research Laboratory at the University of Florida during a 41-year career.

His firm has developed unique measurement systems that can be taken in the field to measure firearms sound levels; developed computer modeling and noise assessment methods to address acoustical design issues in both indoor and outdoor ranges; and has developed instrumentation to measure the noise exposure of active shooters on ranges at their ears.

- His firm has worked on a number of ranges including the FBI Academy range in Quantico, Virginia; the Federal Law Enforcement Training Centers in Cheltenham, Charleston and Glynco (Brunswick); Camp Hansen in Okinawa; the Asymmetric Warfare Group range at Fort A.P. Hill; the Special Weapons Assessment Range in Crane, Indiana; police training facilities in Montgomery County, Maryland; Omaha, Nebraska; Dubuque, Iowa; Tampa, Florida; Pinellas County, Florida; and Albemarle, Virginia among others.
- The firm works on the full range of acoustical design and consulting for firing ranges including environmental, architectural, sound isolation, noise and vibration, and occupational.

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SIEBEIN
ASSOCIATES



UL Labs - Dwayne Sloan
Technical Director,

Building & Life safety Technologies,
UL LLC

“Architects, building owners, contractors and affiliated design professionals for shooting range buildings need to understand the safety and performance code requirements that govern these structures. Understanding this connection between building regulation, test standards, and third party certification will have a positive impact on the installation of compliant products – ultimately achieving a positive impact on the health, safety, and welfare of those in shooting range buildings.”

Dwayne Sloan

TOPIC: IMPORTANCE OF THIRD PARTY TESTING AND CERTIFICATION FOR SHOOTING RANGE BUILDINGS

DWAYNE SLOAN

Technical Director, Building & Life Safety Technologies UL LLC

- 32 years in fire testing and certification with UL
- UL Corporate Fellow
- First Vice Chair of ASTM E05 Fire Standards
- Chair of UL’s Fire Council
- Member of National Fire Protection Association and serves on several of their Technical Committees
- Member of International Fire Safety Standards (IFSS) – Standards Setting Committee

Several magazine and journal publications on various fire topics

UL’s Mission – *“To promote safe, secure and sustainable living and working environments for people by the application of science, hazard-based safety engineering and data acumen”*

Contact information:

Company: UL LLC

Email: 'Dwayne.E.Sloan@ul.com'



TOPIC: SHOOTING RANGE HEATING, VENTILATION AND AIR CONDITIONING

BRIAN WRIGHT

Carey's Small Arms Range Ventilation

- Designed and installed successful small arms indoor firing range ventilation systems for the past two decades.
- Designed and installed over 800 ventilation systems in military, federal, municipal, and commercial indoor firing range projects over the past 25 years.
- Specialized their design in the control of contaminants created by indoor ranges and are currently known as an industry leader.
- Worked with the United States Navy to develop the current range ventilation standards as described in the Unified Facilities Criteria (UFC).
- Written the ventilation standards for the **GSA**, edited the standards for the United States Air Force as published in the **ETL**, and have been consultants for the Federal Law Enforcement Training Center (Department of Homeland Security) and **FBI**.

“The design, installation, and control of the range ventilation system can be the difference between an unsafe range and a range that meets the IMC 2009, OSHA, EPA and NIOSH standards.”

Brian Wright

Carey's Small Arms Range Ventilation

Contact information:

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An opportunity to learn how to create a safer environment



TOPIC: ARCHITECTURAL ACOUSTICS: FUNDAMENTALS AND CHALLENGES FOR SHOOTING RANGES

DR. NING XIANG

Director, Architectural Acoustics Graduate Program, RPI (Rensselaer Polytech Institute), Troy, NY

- Director, Architectural Acoustics Graduate Program, RPI (Rensselaer Polytech Institute), Troy, NY.
- Extensive knowledge of ASTM RT 60 advanced computer-based simulations, designed specifically for shooting range conditions.

A researcher, educator, and inventor, Xiang is one of just 16 individuals worldwide to win the prestigious Wallace Clement Sabine Medal, the architectural acoustics field's top honor.

- Recipient, Wallace Clement Sabine Award, Acoustical Society of America
- Editor **Architectural Acoustics Handbook**, (504 pages, J. Ross Publishing), which culls the theory and applications from some of the leading minds in architectural acoustics, including his advanced RT methods
- Presented with the Albert Nelson Marquis Lifetime Achievement Award by Marquis Who's Who
- Doctorate, Ruhr-Universität Bochum

“The need to understand acoustics is more profound than ever. As we have more sound and understand how to control and improve the sound, we are making a real difference in society.”

Dr. Ning Xiang

Director, Architectural Acoustics

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To attendees:

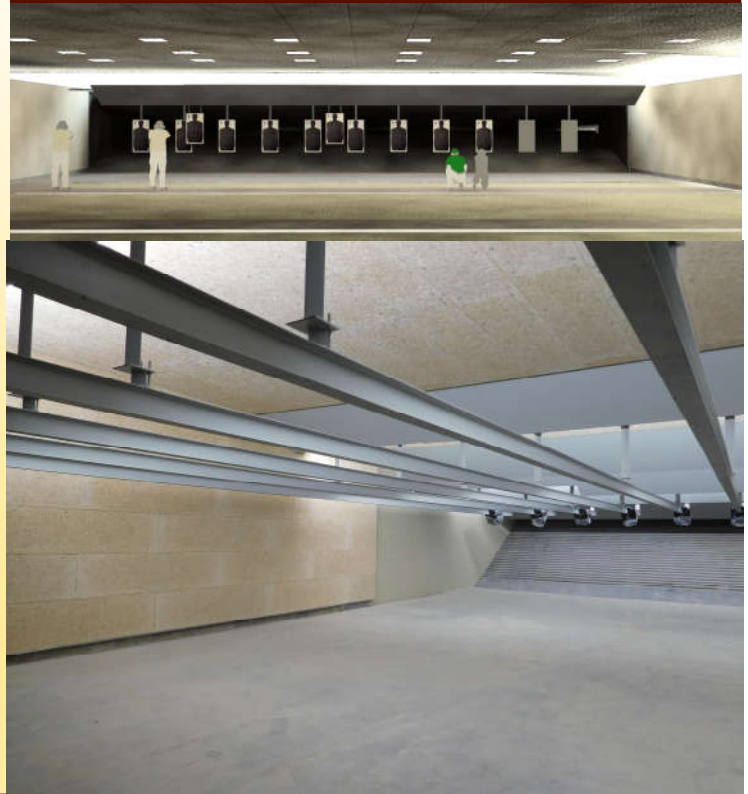
We look forward to meeting you at our 4TH Annual Architects' and Range Designers' Seminar with a focus on acoustics and health, safety and welfare as it relates to shooting range design.

Troy Acoustics is proud to be the sponsor of this one of a kind opportunity, bringing the best of the best in the shooting range industry to share their experiences.

We are here to answer any questions that you might have.
Just call us at 800-987-3306 Ext. 806

Best regards.

Bill Bergiadis, CEO
TROY ACOUSTICS CORPORATION



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