



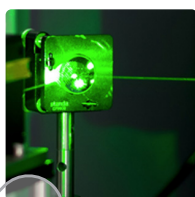
ABD Engineering & Design

Architectural Acoustics ▪ AV Design ▪ Noise & Vibration

Outdoor Performance Venues

Statement of Qualifications

Acoustical Consulting & Audiovisual Design



ABD Engineering & Design

ABD Engineering & Design is an independent acoustical engineering and audiovisual design firm, proud to be a nationally and state (OR, WA) certified Women Owned business. We work with you to provide practical solutions with options that allow for informed decisions. Our timely communications and responsiveness give you the right information at the right time. The cornerstones of ABD's work include data collection on site, research, and calculations to deliver evidence-based designs. With decades of experience across multiple markets, and a team of consultants from varied backgrounds, you can count on ABD to bring you the best in audiovisual design and acoustical consulting.

At ABD, we strive to create a future where every day spaces meet the acoustical and audiovisual needs of every person. We are committed to providing an open, inclusive workplace where everyone, no matter what their background or where they come from, can learn and grow to their full potential.

Certifications

WBENC: WBE1701950

OR-COBID-WBE: 11342

WA-OMWBE: W2F0027557

WI-WBE: WI-13264



Professional Memberships

Acoustical Society of America

Institute of Noise Control Engineering

American Society of Testing and Materials

National Council of Acoustical Consultants

AVIXA (CTS-D)

Staff Count

Acoustics = 8

Audiovisual = 2

Leadership/Admin = 2

Contacts

Principal Engineer: Melinda Miller, PE mmiller@abdengineering.com

Contracts/Billing: Marci Boks, COO mboks@abdengineering.com

New Projects: Brian Atkinson, client@abdengineering.com

Incorporated: S-Corp incorporated 10/30/2001 in the State of Michigan

EIN: 38-3631490

DUNS: 104088682

NAICS Code: 541330

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client@abdengineering.com



ABD Engineering & Design

Architectural Acoustics • AV Design • Noise & Vibration

Enhancing the Performance Environment

Acoustical Engineering and Audiovisual Design



Critical to any performing environment is a fluid marriage between acoustics and technology, so every seat in the house is a great seat. At ABD Engineering & Design, our consultants are experts at combining enhanced audio and video systems with optimized room acoustics. The result is a fantastic creative environment for performers and an extraordinary experience for the audience. Performing Arts Centers, Theatres, Auditoriums, and Cinemas all require spaces that maximize acoustical performance while minimizing distractions from noise (from inside or outside the room). On the other hand, outdoor performance spaces like stadiums and amphitheaters have an entirely different set of requirements, and often require noise studies to fit into the communities where they're located. As an independent acoustical consulting and AV design firm, we take into account the whole equation, from the performers to the audience, and we design spaces where every expression can be seen and heard with pristine clarity.

Audiovisual Systems Design

Our audiovisual consultants are experts at designing custom AV systems, and we work closely with our clients to determine their specific technology needs. We design systems for every level of production, from intuitive designs for community theatres to sophisticated multimedia systems for dynamic, touring stage productions, along with sports stadiums and major concert venues. Costs are estimated early in the process to bring needs and desires in-line with the budget. We create audiovisual infrastructure drawings and specifications, working with project architects to integrate the equipment into their designs and working with engineers to advise on AV equipment HVAC and electrical loads.

Architectural Acoustics

Great performance venues have great acoustics, optimized for both performed music and the spoken word. At ABD Engineering & Design, we use 3D modeling software to accurately predict the acoustical response of all types of performing arts venues. In existing spaces, we take high tech sound measurements to map the "acoustical fingerprint" of the room. This data enables us to offer detailed recommendations for construction features that optimize reverberation and maximize speech intelligibility, creating an even acoustical response from the front row to the balconies.



BIM Design

Building Information Modeling (BIM) is an intelligent 3D modeling and database-based process that gives architecture, engineering, and construction (AEC) professionals the insight and tools to more efficiently plan, design, construct, and manage buildings and infrastructure. ABD's design professionals use BIM as a collaborative design process, not just a documentation tool, making use of Cloud-based resources for smoother real-time collaboration with our partners. Our team performs QA/QC within the model for accuracy beyond what appears on a drawing or sheet. We're using Revit families for better visualization. This helps our clients gain insight into system performance, loudspeaker coverage, projection system geometry, and sight lines. ABD's BIM process also provides more accurate coordination with other disciplines including MEPS, lighting, furniture, and specialty equipment.

Objective Recommendations

As an independent acoustical and AV consulting firm, we have no affiliations with or affinity for any particular brands,

products, technologies, or suppliers. We bring objectivity and unbiased recommendations that are best suited to your facility – procured through a competitive bid process to ensure superior designs at or below budget.

Experience

The ABD Engineering & Design team has extensive acoustical design and engineering experience. In addition, staff members have held teaching and research positions at various colleges and universities and regularly conduct educational seminars, conferences, workshops, and institutional training sessions on acoustics, and environmental noise and vibration control.

LEED Design

The LEED design guidelines set the pace for a higher standard in sustainable facility design. Our professional engineers are well versed at meeting the LEED for prerequisite requirements for reverberation time, sound transmission, and background noise levels, and will guide you through the LEED certification process.



Green Design

ABD Engineering & Design is a leader in the acoustical and AV design community for creating sustainable facilities. Our own Green Initiatives put theory into practice to reduce our own corporate carbon footprint. Every employee's "green ideas" help to improve energy efficiency and environmental quality of life. These organic solutions improve all of our offices, further solidifying our commitment to the environment.



ABD Engineering & Design
Architectural Acoustics • AV Design • Noise & Vibration

Performance Venues

Selected Experience



20 Monroe
Live Nation Events
Grand Rapids, MI

Arcadia Bluffs Golf Club
Arcadia, MI

Berman Center for the Performing Arts
West Bloomfield, MI

Brighton Center for the Performing Arts
Brighton, MI

Calvin College
Recital Hall
Covenant Fine Arts Center
Grand Rapids MI

Catholic Central
Stadium
Grand Rapids, MI

Celebration Cinema and IMAX Cinema
Grand Rapids, MI
Kalamazoo, MI
Lansing, MI

Charlevoix Pavilion Amphitheater
Charlevoix, MI

City of Tallahassee
Cascades Park Amphitheater
Tallahassee, FL

Cornerstone University
Matthews Auditorium
Matthews Performing Arts Center
Christ Chapel
Grand Rapids, MI

CRC Conference Grounds
Grand Haven, MI

Delphi Opera House
Delphi, IN

Detroit Institute of Music Education
Detroit, MI

Detroit Regional Convention Facility Authority
Cobo Hall
Detroit, MI

DTE Energy Center
Independence Township, MI

East Grand Rapids High School
Athletic Complex Stadium
East Grand Rapids, MI

Grand Rapids Christian High School
Eagles Stadium
Grand Rapids, MI

Grand Rapids Community College
Albert P. Smith Music Center
Linn Maxwell Keller Performance Hall
Grand Rapids, MI

Grand Valley State University
Haas Performing Arts Center
Linn Maxwell Keller Black Box Theater
Allendale, MI

Greektown Casino
Event Center
Detroit, MI

Hale Centre Theatre
Mountain America Performing Arts Centre
Sandy, UT



High Star Ranch
The Barn Conference and Events Center
Kamas, UT

Hope College
Martha Miller Center for Global Communication
Holland, MI

Indiana Wesleyan University
Chapel Auditorium
Marion, IN

Jamie Hurd Amphitheater
West Des Moines, IA

Kent State Hospital
Conference Center
Kent, OH

Kresge Amphitheater
Interlochen Center for the Arts
Interlochen, MI

Little Caesar's Arena
Detroit, MI

LMCU Park (formerly 5/3, Old Kent)
West Michigan Whitecaps Baseball
Detroit, MI

Michigan State University
Community Music Center Detroit, MI
Community Music School Lansing, MI

Mosaic Youth Theatre
Detroit, MI

Motherhouse Retreat House
Bedford, OH

Peralta Hacienda
Oakland, CA

Plainwell High School
Performing Arts Center
Plainwell, MI

Saint Cecilia Music Center
Royce Auditorium
Grand Rapids, MI

Summerfest Festival Park
Milwaukee, WI

Tamarack Camps
Amphitheater
Ortonville, MI

University of Michigan
Earl V Moore School of Music
Ann Arbor, MI

University of Michigan Flint
Conference and Event Spaces
Flint, MI

University of Oregon
Autzen Stadium
Eugene, OR

Urban Institute for Contemporary Arts
Grand Rapids, MI

Village Theater Company
Vanguard Theater
Sewickley, PA



Wayland Union Schools
Performing Arts Center
Wayland, MI

Western Michigan University
WMUK Radio, Kalamazoo, MI

Woodward Garden Theater
Detroit, MI

Zimmer Amphitheater
Grand Rapids, MI

This listing represents portions of the collective career experience of the ABD Engineering & Design Staff.



ABD Engineering & Design
Architectural Acoustics • AV Design • Noise & Vibration

Music Festival Study

Project Name Rock The Locks Music Festival

Location Umatilla, Oregon

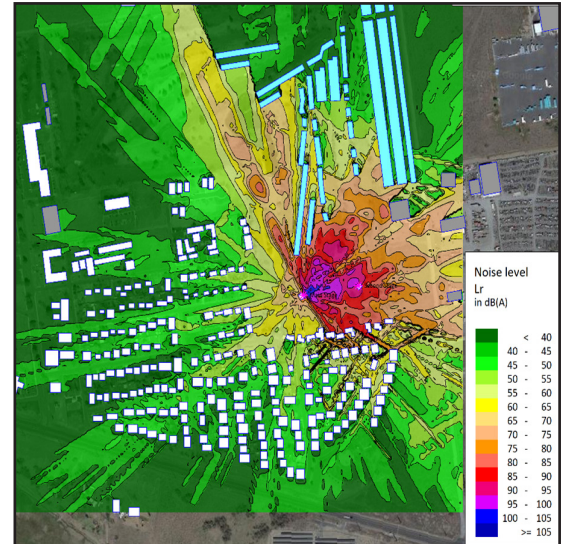
Year Completed 2024 and ongoing

Size 3-day music festival

Description ABD Engineering & Design worked with J-U-B Engineers on the City of Umatilla Rock The Locks Music Festival.

ABD created a model of the site based on the site plan, speaker sound data, and audio system information, along with data from other outdoor performance projects. Using the model, we developed mitigation options to help reduce the sound penetrating the nearby residential neighborhoods. Later, ABD conducted measurements during the 2024 festival and updated the model to show the impact. Residents completed surveys during the festival to provide their impressions of the sound.

ABD used the modeled data with the surveys to recommend sound limits to follow during future festival events. ABD will return to measure their effectiveness in 2025.

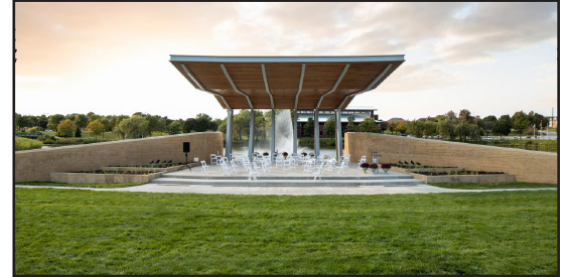


Amphitheater

Project Name	Jamie Hurd Amphitheater
Location	West Des Moines, Iowa
Year Completed	2020
Budget and Size	\$2.4 Million, 1,550 SF Stage, lawn seating for 2000 people
Description	ABD Engineering & Design worked with Confluence on the City of West Des Moines Jamie Hurd Amphitheater.

Our Acoustical Engineering services included a site noise study. We used the data collected on site for modeling the proposed amphitheater designs to determine sound propagation throughout the site, and from the amphitheater to the community, including the nearby library. ABD's recommendations for noise mitigation to reduce the overall community noise exposure, were also targeted at providing the best outdoor performance environment possible.

As the project moved forward, ABD worked with the architect and city stakeholders to review construction drawings and confirm our recommendations.



Photos courtesy of the City of West Des Moines



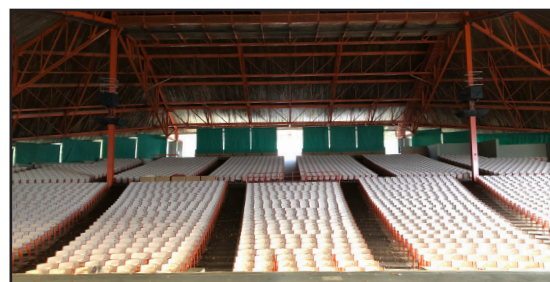
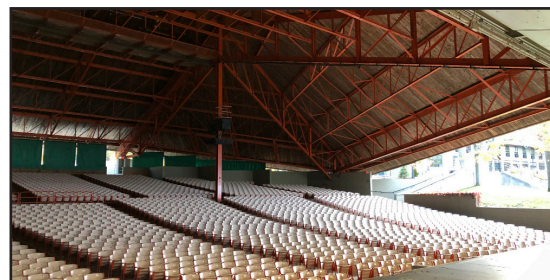
Amphitheater

Project Name Kresge Amphitheater
Location Interlochen, Michigan
Year Completed 2019

Description ABD Engineering & Design worked with the Interlochen Music Center to help address the acoustical performance of this outdoor performance theater.

Our consultant engineers conducted acoustical measurements in the space, revealing an overly long reverberation time. This limits its use as a multi-purpose venue. Computer modeling showed this to be true mathematically as well. We used the computer model of the amphitheater to engineer our recommendations.

ABD recommended acoustical treatment materials, square footages, and locations designed to improve the sound and mitigate the long delay. Our recommendations targeted a balance between the needs of different performance styles, from student classical recitals to heavily amplified shows.



Venue Noise Study

Project Name **20 Monroe Live**

Location Grand Rapids, MI

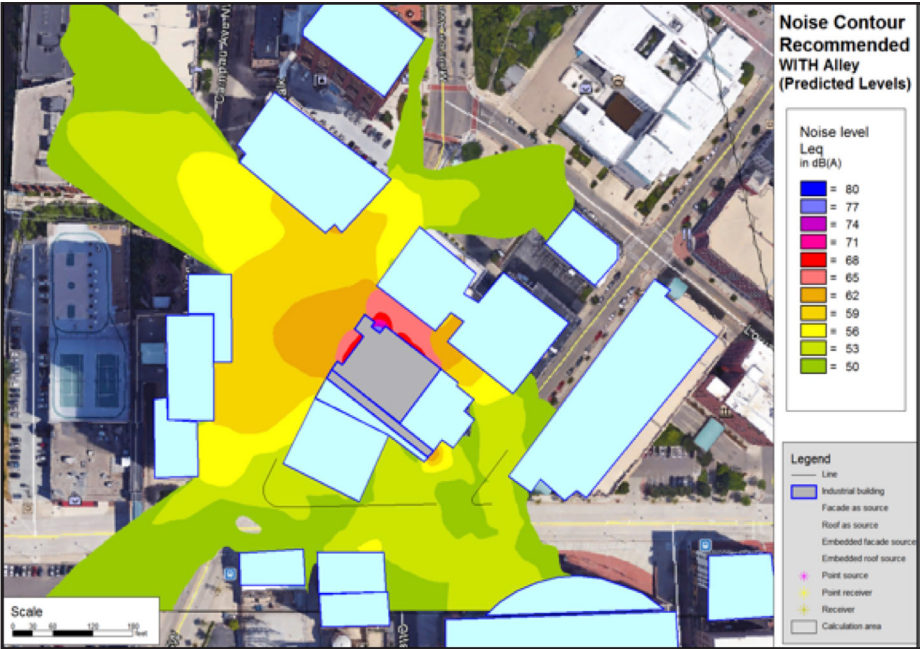
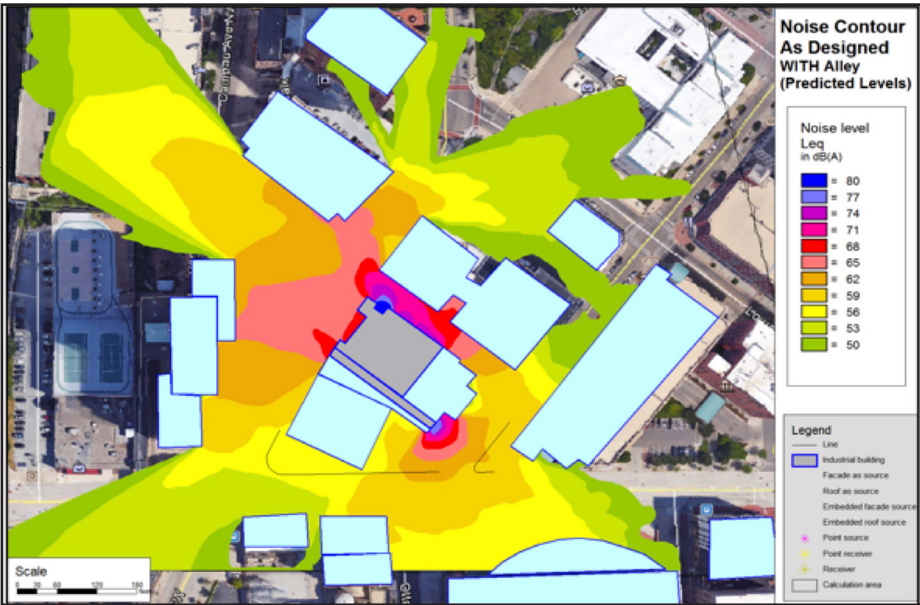
Size 2,600 flexible seating

Opened February, 2017

Description ABD Engineering & Design worked directly with the Gilmore Group, in Partnership with House of Blues and Live Nation Clubs and Theaters to provide extensive acoustical consulting for this premiere live performance venue in the heart of the city.

Of particular concern was managing exterior noise levels, due to the adjacent hotel, high-end condominiums and other residential properties. ABD began with a noise study to predict the noise propagation, and engineered recommendations for the building envelope to minimize the impact of the new facility.

Photos courtesy of 20 Monroe Live



Amphitheater

Project Name **Cascades Park Amphitheater**

Location Tallahassee, Florida

Year Completed 2012 and ongoing

Description The Cascades Park renovation project is a community initiative in Tallahassee, FL to create a social capital center for the community, which will encompass the arts, entertainment, history, education, wellness and pride. When complete, the park will include an amphitheater, a baseball field, historic building renovations, and open green space for trails and community gatherings. ABD Engineering & Design was brought in to conduct a community noise assessment for the amphitheater ensuring proper noise levels. ABD also worked to design an audio-visual system for the amphitheater.

The City of Tallahassee has brought ABD in on a number of occasions to assist with adjustments to the stage, and the park acoustics and sound system.



Amphitheater

Project Name	Charlevoix Pavilion
Location	Charlevoix, Michigan
Year Completed	2008
Size and Cost	Lawn seating for 500, \$20 Million

Description ABD Engineering & Design offered independent consulting services in architectural acoustics and audio-visual design for the newly built, Chalevoix Band Shell Amphitheatre in Charlevoix, Michigan. Our professional engineers developed a comprehensive plan to address all relevant acoustical and audio-visual issues at the site, rendering it fit for a wide variety of performances and events.

Speakers were hidden in the brick columns flanking the stage for aesthetics as well as weather protection. A Christie LX120 projector was installed to provide viewing options for images or films during evening events. Our final report included specifications for the audio, video, and lighting systems as well as specifications for construction features that would maximize the acoustical qualities of the shell. The end result was a classy outdoor performance space that looks great and sounds even better.



Outdoor Performance

Project Name **Summerfest
BMO Harris Pavilion,
Briggs & Stratton Big Backyard**

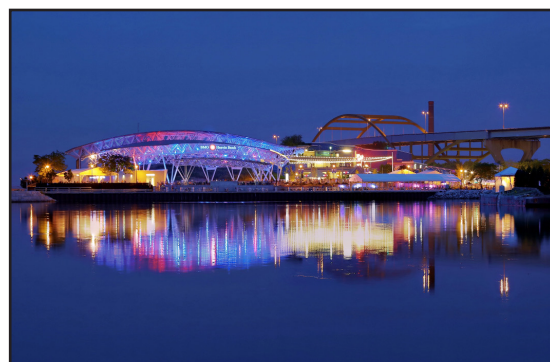
Location Milwaukee, Wisconsin

Year Completed 2011

Description Summerfest is the world's largest music festival, providing the backdrop for the music industry's hottest stars, emerging talent and local favorites in a world-class festival setting.

ABD Engineering & Design worked with Eppstein Uhen Architects to perform a comprehensive acoustical analysis, including a community noise assessment, on two of the premier festival stages – the BMO Harris Pavilion and the Briggs & Stratton Big Backyard.

Their efforts, in conjunction with the rest of the design team, resulted in a great-sounding facility, free from excess reverberation, which provides fans with an unforgettable live music experience.





Melinda Miller brings her passion for all things sound and 20 years of experience to her role as Principal Engineer of ABD Engineering & Design. Her expertise includes diagnosing and preventing noise problems, designing acoustically optimized environments, and using evidence-based design practices. Melinda has consulted on projects involving architectural acoustics, noise isolation, mechanical noise control, and occupational noise exposure. Her experience includes higher education, K-12 schools, performance and worship spaces, healthcare facilities, industrial facilities, hotel and multi-family residential buildings.

A Professional Acoustical Engineer, licensed by the State of Oregon, Melinda earned her Bachelor's Degree in Mechanical Engineering from the University of Idaho, and Master's from the University of Illinois, Chicago. She has continued her education and training, earning her INCE Board Certification (INCE Bd. Cert.), Evidence-Based Design Accreditation and Certification (EDAC), and LEED AP BD+ C. As an Assistant Professor of Acoustics for Columbia College, she taught undergraduate junior and senior level classes in HVAC design, vibrations, acoustical testing, building noise control, and musical acoustics.

Melinda has chaired sessions on various topics at Noise-con and Inter-noise since 2013, and has served INCE as the Co-Chair of Building Acoustics Technical Activities committee, on the Certification Board since 2018, and the Board of Directors (2021-2024). Likewise, she has presented technical papers and education sessions for the Acoustical Society of America, the American Institute of Architects, and the Chicago Chapter of the Audio Engineering Society.

Professional Experience

- 2011-Present – Principal Engineer, ABD Engineering & Design, Inc., Portland, Oregon
- 2006-2009 – Acoustical Consultant, Listen Acoustics, Inc., Portland, Oregon
- 2003-2005 – Assistant Professor, Audio Arts and Acoustics Department, Columbia College Chicago, Chicago, IL
- 2001-2003 – Graduate Assistant, Acoustics and Vibrations Laboratory, Department of Mechanical & Industrial Engineering, University of Illinois Chicago, Chicago, Illinois

Professional Licenses and Memberships

- Acoustical Society of America
- Evidence-Based Design Accreditation and Certification (EDAC)
- Institute of Noise Control Engineering (INCE), Board-Certified Member
- Institute of Noise Control Engineering (INCE), Certification Board, and Board of Directors
- National Council of Acoustical Consultants
- State of Oregon, Professional Engineer, #88158PE
- U.S. Green Building Council LEED AP BD+C

Education

- Master of Science in Mechanical Engineering, University of Illinois at Chicago, Chicago, Illinois, 2003
- Bachelor of Science in Mechanical Engineering, University of Idaho, Moscow, Idaho, 1998.

Project Experience

- | | | |
|--------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|
| • Cascades Park Amphitheater, Tallahassee, FL | • Lakeshore High School, Stadium, Stevensville, MI | • Tamarack Camps, Amphitheater, Ortonville, MI |
| • DTE Energy Center (Pine Knob), Sound Study, Clarkston, MI | • Rock the Locks Music Festival, Umatilla, OR | • University of Oregon, Autzen Stadium, Eugene, OR |
| • Happy Valley Community Recreation Center, Happy Valley, OR | • Rockford High School Stadium, Rockford, MI | • West Des Moines Amphitheater, West Des Moines, IA |
| • Interlochen Kresge Amphitheater, Interlochen, MI | • Summerfest, Summerfest Place, Milwaukee, WI | • Wyoming High School Stadium, Wyoming, MI |





Erik J Geiger has designed and consulted on audio, video, and technical systems for over 20 years. He has served as an Audiovisual discipline leader and project manager, and carries a wealth of technical system consulting and design experience. Erik brings the heart of a teacher to every project, helping clients and end-users to understand a rapidly changing environment — having held a position at Columbia College, Chicago for many years.

Erik specializes in planning, budgeting and needs analysis studies for audiovisual and media technology-based systems, with a focus on facilities and infrastructure planning to provide life cycle value and long-term cost savings through accommodating future technologies, some of which may only be emergent.

Erik has designed large scale facility-wide audio, video and media distribution systems, leveraging IT network topologies and convergence, as well as high performance sound-reinforcement and large-scale video display systems, recording and media post-production facilities. He has designed interactive and collaborative communications environments, that both augment and move beyond the traditional audio and video conferencing space. He has worked on projects in healthcare, university, K-12 education, and corporate environments, along with auditoriums, convention centers and hospitality venues around the world.

When Erik isn't designing technical systems, he enjoys playing the piano, backpacking, cycling, and photography.

Professional Experience

- 2016-Present – Director of Audiovisual, ABD Engineering & Design, Inc., Portland, Oregon
- 2011-2016 – Senior Associate, Shen, Milsom & Wilke, LLC – Chicago, Illinois
- 2007-2014 – Adjunct Professor, Audio Arts & Acoustics, Columbia College – Chicago, Illinois
- 2009-2011 – Owner, Geiger Design Consultants – Chicago, Illinois
- 2004-2009 – Associate, Shen, Milsom & Wilke, LLC – Chicago, Illinois
- 1998-2004 – Arnold & O'Sheridan, Inc. – Madison, Wisconsin
- 1995-1998 – Hammel Green & Abrahamson, Inc. – Minneapolis, Minnesota

Professional Certifications and Memberships

- AVIXA (InfoComm International), Certified Technical Specialist
- CTS-D
- AVIXA (Infocomm) Infrastructure Standards working group

Education

- Mass Communications, University Of Wisconsin – Madison, Wisconsin
- Audio Recording and Production, Musicians Technical Training Institute – Minneapolis, Minnesota.

Project Experience

- | | | |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| • Portland Community College, Cascade Campus, Public Service Education Building, Portland, OR | • Moreland Presbyterian Church, Sanctuary, Portland, OR | • University of Montana, Early Childhood Education Center, Missoula, MT |
| • Oregon State University, Fairbanks Hall, Corvallis, OR | • Port of Vancouver, Commission Room, Vancouver, WA | • Muskegon Community College, Arts and Humanities, Theater Music and Art, Muskegon, MI |
| • North Eugene High School, Eugene, OR | • Clackamas Community College, Barlow Hall, Automotive, Oregon City, OR | • South Christian High School, Grand Rapids, MI |
| • City of Ukiah, Council Chambers, Ukiah, CA | • The University of Providence Great Falls, University Center, Great Falls, MT | • University of Oregon, Autzen Stadium, Eugene, OR |
| • Kaiser Permanente, North Lancaster Medical Office Building, Salem, OR | • Central Michigan University, Center for Integrated Health Studies, Mount Pleasant, MI | |



Peter Allen is a senior acoustical engineer with a Master of Engineering degree in Acoustics and over 20 years of experience in the field of acoustics. Peter has been with ABD Engineering & Design since 2016 and provides consulting services on a wide-range of projects types, including education facilities, healthcare facilities, worship spaces, hotels, and multi-family housing, while also specializing in vibration testing and analysis.

Peter uses an evidence-based, data-driven approach to provide acoustical recommendations to clients. Whenever possible, his recommendations include multiple options to help clients meet their aesthetic and budgetary constraints. He has presented his work at various industry symposia as well as at the annual conference for the

Institute of Noise Control Engineering.

Prior to joining ABD, Peter worked as an acoustical consultant at Daly-Standlee & Associates for eight years, where he learned to apply his skills from a research environment to the field of acoustical consulting. He began his career at Southwest Research Institute (SwRI), where he worked for ten years. There, he managed technical projects in vibration analysis, noise control, and environmental testing for clients in the electric utility, telecommunications, aerospace, automotive, and building industries. He taught technical courses within the organization to further develop the skills of others in the organization.

In 2005, Peter obtained his Master's Degree of Engineering in Acoustics from Pennsylvania State University, and he has used his additional education to focus his efforts on the use of field testing and analysis to solve noise and vibration problems. In his personal time, Peter enjoys climbing, yoga, riding his motorcycle, and SCUBA diving.

Professional Experience

- 2016-Present – Senior Acoustical Engineer, ABD Engineering & Design, Inc., Portland, Oregon
- 2008-2016 – Senior Acoustical Engineer, Daly-Standlee & Associates, Portland, Oregon
- 1998-2008 – Senior Research Engineer, Southwest Research Institute, San Antonio, Texas

Professional Licenses and Memberships

- Acoustical Society of America
- Institute of Noise Control Engineering (INCE), Board-Certified Member
- National Council of Acoustical Consultants
- State of Oregon, Professional Engineer #84392PE

Education

- Master of Engineering in Acoustics, Pennsylvania State University, State College, Pennsylvania, 2005
- Bachelor of Science in Engineering, Electrical Emphasis, Texas Christian University, Fort Worth, Texas, 1998.

Project Experience

- | | | |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| • Rock the Locks Music Festival, Umatilla, OR | • Kaiser Permanente:
-Hybrid Operating Room, Clackamas, OR
-Salmon Creek MRI, Vancouver, WA
-North Lancaster MOB, Salem, OR
-Clackamas Eye Care MRI, Happy Valley, OR | • Zoom+, Bridgeport Village Clinic, Portland, OR |
| • University of Oregon, Autzen Stadium, Eugene, OR | • Jesuit High School, Portland, OR | • USANA Sciences Company, Packaging Area, Valley City, UT |
| • Beaverton Health & Science School, Beaverton, OR | • Tukes Valley K-8 School, Battleground, WA | • TriMet, Columbia 10, Portland, OR |
| • Lakeridge High School, Lake Oswego, OR | • West End Surgical, Beaverton, OR | • St John Fisher School, Gym Noise Isolation, Portland, OR |
| • Ron Russell Middle School, Portland, OR | | • Bendix, Relocation Noise and Vibration, Avon, OH |
| • Yates Pointe Mixed Use Development, Bend, OR | | |





Jeremy Bielecki is a Senior Acoustical Consultant with over 20 years of experience as a consultant, and as a project manager for over 300 building projects. Jeremy has worked in acoustics in the Midwest and Pacific Northwest on projects including healthcare, higher education, workplace, performance spaces, K-12 education, athletics, and multi-family residential.

Jeremy possesses a strong work ethic and creative problem solving skills that have served him and his clients well. Knowing he always wanted to be in engineering and involved with music, Jeremy found acoustics to be the marriage of the two. He gains tremendous satisfaction from being part of a project that starts with lines on a screen and words on a page, eventually becoming a physical space you live within, and get enjoyment from.

Over his career, Jeremy has developed expertise in performing field measurements, creating complex computer prediction models, and analyzing data and drawings to identify primary causes and contributors to noise and vibration problems. He also determines sound isolation ratings, HVAC system noise ratings, and room acoustic performance using reverberation time, acoustical clarity, and speech intelligibility metrics.

In his spare time, Jeremy is a skilled piano tuner and repair technician, musician, and coaches soccer and robotics. He also enjoys 3D printing, and cooking with his family.

Professional Experience

- 2022-Present – Senior Acoustical Consultant, ABD Engineering & Design, Inc., Grand Rapids, Michigan
- 2005-2022 – Acoustical Consultant, Kolano and Saha Engineers, Inc., Waterford, Michigan
- 2001-2004 – Acoustical Engineer, Michael R. Yantis Associates, Inc., Seattle, Washington

Professional Memberships

- Acoustical Society of America
- Institute of Noise Control Engineering (INCE)
- American Society of Testing and Materials
- National Council of Acoustical Consultants

Education

- Bachelor of Science in Mechanical Engineering, University of Michigan, Ann Arbor, 2000.

Project Experience

- | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| • Munson Medical Center
Traverse City, MI | • *Michigan State University, East
Lansing, MI
Broad Art Museum
STEM Power Plant Renovation | • *Charles H Wright Museum
of African American History,
Detroit, MI |
| • *St. John Hospital, Detroit, MI | • *Henry Ford Community College,
Recording Studio, Dearborn, MI | • *Emagine Theaters, Royal Oak,
MI |
| • *Detroit Pistons Performance
Center, Detroit, MI | • *Kendall College of Art and
Design, Grand Rapids, MI | • *Residence Inn by Marriott,
Grand Rapids, MI |
| • *Greektown Casino Hotel,
Detroit, MI | • *Davidson Foundation
Development, Bloomfield Hills,
MI | • *Bharatiya Temple, Troy, MI |
| • *University of Michigan, Ann
Arbor, MI
Law School: Hutchins Hall,
Jeffries Hall
Student Union
Central Campus Recreation
Building
Beyster Building Addition
Munger Student Residences | • Romeo High School, Auditorium,
*Romeo, MI | • *The Mid: Co-Living, Detroit, MI |
| • *Central Michigan University,
Mount Pleasant, MI
Grawn Hall
Ronan Hall | • *Byron Center High School,
Byron Center, MI | • *New Beginning Baptist Church,
Waterford, MI |
| | • *Ann Arbor School of the
Performing Arts, Ann Arbor, MI | • *Cobo Center, Detroit, MI |
| | • *Toyota Technical Center, Quiet
Room, Ann Arbor, MI | • *Patrick V. McNamara Fitness
Center, Detroit, MI |
| | | • *Theodore Levin U.S.
Courthouse, Detroit, MI |

*Some project experience is prior to employment at ABD



Benjamin Wolf is a Senior Acoustical Consultant with a Master of Science in Architectural Acoustics from Rensselaer Polytechnic Institute. He specializes in analysis and recommendations for the spaces and structures needed to provide acoustically effective and comfortable environments.

Ben joined ABD Engineering & Design, Inc. in 2016 after four years with Daly-Standlee & Associates. He has worked on architectural projects, including field testing of wall and floor/ceiling systems, HVAC noise analysis, the specification and design of acoustic partitions, and acoustical treatments in churches, movie theaters, offices, apartment buildings, hospitals, and schools. His environmental noise studies include mine and quarry sites, light rail, highway and roadway noise, along with power and industrial facilities.

Ben uses 3D acoustic modeling software to provide a detailed analysis and recommendations for room acoustics, sound distribution, and speech intelligibility. As part of his master's thesis, he modeled accurate acoustical representations of several famous music performance venues allowing musicians to hear their performance simulated in those spaces, in real time, as if they were standing on stage.

In his spare time, Ben plays bass trombone with a wide variety of local groups. He enjoys web design and recording live sound.

Professional Experience

- 2016-Present – Senior Acoustical Consultant, ABD Engineering & Design, Inc., Portland, Oregon
- 2012-2016 – Acoustical Consultant, Daly-Standlee & Associates, Portland, Oregon

Professional Memberships

- Acoustical Society of America
- National Council of Acoustical Consultants
- ASTM International, E33 Committee on Building and Environmental Acoustics
- Institute of Noise Control Engineering (INCE), Board-Certified Member

Education

- Master of Science in Architectural Sciences, Emphasis in Architectural Acoustics, Rensselaer Polytechnic Institute, Troy, New York, 2012
- Bachelor of Arts in Physics, Gustavus Adolphus College, St. Peter, Minnesota, 2011
- Bachelor of Arts in Music Performance, Gustavus Adolphus College, St. Peter, Minnesota, 2011.

Project Experience

- | | | |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| • Cascades Park Amphitheater, Tallahassee, FL | • L&M Industrial Fabrication, Lot Expansion Barrier Calculations, Tangent, OR | • Kaiser Permanente, Sunnyside Medical Center, Clackamas, OR |
| • Lakeshore High School, Stadium, Stevensville, MI | • USANA Sciences Company, Packaging Area, Valley City, UT | • United Natural Foods, Noise and Vibration Study, Ridgefield, WA |
| • Rock the Locks Music Festival, Umatilla, OR | • TriMet, Columbia 10, Portland, OR | • Northwest Pipe Company, Open Office Acoustics, Vancouver, WA |
| • University of Oregon, Autzen Stadium, Eugene, OR | • Hermiston Schools (Theater Lane Elementary School, Rocky Heights Elementary School, High School Classroom Annex and CTE), Hermiston, OR | • Columbia Shores Townhouses, Overlay Noise Study, Vancouver, WA |
| • South Cooper Mountain Apartments, Beaverton, OR | • Dry Creek Landfill, Noise Study, Eagle Point, OR | • Clackamas Federal Credit Union, Corporate Headquarters, Oak Grove, OR |
| • Wood Village Mixed Use, Wood Village, OR | | |
| • Wood Village Mixed Use, HUD Noise Study, Wood Village, OR | | |



Quincey Smail is a Senior Acoustical Consultant, with a Master of Engineering in acoustics from Penn State. Quincey's expertise includes acoustical design, modeling and testing to provide thoughtful recommendations for a variety of project types from residential and mixed use to K-12, higher education to healthcare, workplace, environmental, and industrial facilities. Quincey earned his Board Certification by the Institute of Noise Control Engineering (INCE) in 2022.

His projects include noise studies of manufacturing equipment in the US and Europe, car wash sites with residential adjacencies, and high-profile commercial locations.

Quincey's musical background has served him and his projects well in performance spaces including the Interlochen Center for the Arts, as well as other public and private music schools, music stores, event centers, plus the particular needs of worship spaces. Quincey is regularly called upon to assist with hotel acoustical needs during design and construction, along with post-occupancy needs. He has also worked with hospitals, hospice, counseling centers, dental offices, and residential healthcare to address FGI and HIPAA requirements.

In his free time, Quincey – a talented baritone – sings in community and church choirs. He can be found enjoying the Grand Rapids local craft-brewery and cocktail culture, trivia nights, and playing tabletop games.

Professional Experience

- 2016-Present – Senior Acoustical Consultant, ABD Engineering & Design, Inc., Grand Rapids, Michigan
- 2015-2016 – Lead Producer, Penn State University, State College, Pennsylvania
- 2012-2013 – Physics Lab Assistance, Central College Physics Department, Pella, Iowa

Professional Memberships

- Acoustical Society of America
- American Society of Testing and Materials
- National Council of Acoustical Consultants
- Institute of Noise Control Engineering (INCE), Board-Certified Member
- Boy Scouts of America, Eagle Scout

Education

- Master of Engineering in Acoustics, Pennsylvania State University, State College, Pennsylvania, 2016
- Bachelor of Arts in Physics, Minors in Mathematics, Music, and German, Central College, Pella, Iowa, 2013.

Project Experience

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|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| • Public Museum, Grand Rapids, MI | • Riverview Church, Auditorium, Holt, MI | • Rockford High School Stadium, Rockford, MI |
| • Courtyard Marriott, Detroit, MI | • 212 River Residential Mixed-Use, Holland, MI | • Domino's Pizza, Boardroom and Warehouse Open Office, Ann Arbor, MI |
| • Essity Operations Gennep, Netherlands | • Jefferson Lofts Condominium Association, Noise Isolation, St. Joseph, MI | • Interlochen Center For The Arts, Kresge Amphitheater, Interlochen, MI |
| • Tri County Area Schools, Cafetorium, Howard City, MI | • West Ottawa Public Schools, Performing Arts Center, Holland, MI | • Grand Valley State University, Product Design and Robotics Studio, Grand Rapids, MI |
| • Nestle Production Studio, Solon, OH | • Warner Norcross & Judd, Office Acoustics, Detroit, Grand Rapids, and Kalamazoo, MI | • Ford Motor Company, Conference & Event Center, Dearborn, MI |
| • Bendix, Relocation Noise and Vibration, Avon, OH | • Tommy Car Wash Systems, Car Wash Noise Study, Hudsonville and Flint, MI | • Opera Grand Rapids, Grand Rapids, MI |
| • Western Michigan University, Dunbar Hall, Kalamazoo, MI | | |
| • Western Michigan University, College of Aviation, Battle Creek, MI | | |





Iva Handley is a graduate of Rosenheim University of Applied Sciences in Germany, where she earned her bachelor's degree in engineering, with a focus on interior engineering.

Iva has since worked as an engineer in the building design field, both in Germany, and in the US. She is experienced in acoustical measurements of airborne sound, impact noise, equipment, construction, and traffic noise, as well as building enclosures and field reviews. She also brings a background in carpentry and metal work to her projects.

When Iva isn't out taking acoustical measurements, building acoustical room models, or writing engineering reports, you might find her brewing her own beer.

Professional Experience

- 2019-Present – Acoustical Consultant, ABD Engineering & Design, Inc., Portland, Oregon
- 2018-2019 – Building Science Engineer, EIT, RDH Building Science, Inc., Portland, Oregon
- 2015-2016 – Project Engineer, ig-bauphysik GmbH & Co. KG, Hohenbrunn, Germany

Education

- Bachelors of Engineering: Interior Engineering, FH Rosenheim: University of Applied Sciences (Germany), 2017
- Study Abroad Program, École Supérieure du Bois: Research Wood Science and Technology (France), 2014

Professional Certifications

- EIT Certification for Civil Engineering and Land Surveying in the State of Oregon

Professional Memberships

- Acoustical Society of America
- Institute of Noise Control Engineering (INCE)
- American Society of Testing and Materials
- National Council of Acoustical Consultants

Project Experience

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|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| • Zoom+, Bridgeport Village Clinic, Portland, OR | • Chiller Noise Control, Portland, OR | • Oregon State University Cascades, AB2 STEM Building, Bend, OR |
| • Hillsboro School District, Mooberry Elementary School, Chiller Noise, Hillsboro, OR | • Oregon Humane Society, Portland, OR | • Silco Site Apartments, Portland, OR |
| • Godfrey Detroit Hotel, Detroit, MI | • Kaiser Permanente, Sunnyside Medical Center, Clackamas, OR | • Kaiser Permanente, North Lancaster Medical Office Building, Salem, OR |
| • Schirle Elementary School, Salem, OR | • United Natural Foods, Noise and Vibration Study, Ridgefield, WA | • University of Portland, Innovation Center, Portland, OR |
| • Treasury Resiliency Building, Salem, OR | • Sprague High School, Salem, OR | • Salem-Keizer Public Schools, South Salem High School, Salem, OR |
| • Victory Charter School, Performing Arts Center, Nampa, ID | • Northwest Pipe Company, Open Office Acoustics, Vancouver, WA | • Scioto Peninsula Apartments, Columbus, OH |
| • Hermiston Schools (Theater Lane Elementary School, Rocky Heights Elementary School, High School Classroom Annex and CTE), Hermiston, OR | • Legacy Health, Emanuel Medical Center and Progressive Cardiac Care Unit, Portland, OR | |
| | • Casino Road Office Building, Everett, WA | |





John Kramer is an acoustical consultant, with a Master of Architectural Engineering from University of Nebraska, Lincoln. John's passion for music and performing arts led to his interest in acoustics and helping to create efficient, comfortable, and healthy acoustical environments. John leverages his experience in acoustics and building systems with an applied background in noise and vibration control in his project work.

John has excelled with both professional and student design teams, including a 1st place finish in the 2020 ASHRAE Student Design Competition (System Selection). He has designed mechanical systems on projects including secure government facilities, corporate headquarters, large scale healthcare, and education. Since joining ABD, John has begun working on projects across the country from wind turbine noise studies to residential acoustics. John is building his experience with acoustically sensitive spaces including: Healthcare, K-12 Schools, Churches, Corporate Offices, and Social Halls, and is quickly developing as a consultant.

In John's spare time he enjoys playing guitar and singing, playing chess, collecting comic books, and is learning his way around West Michigan.

Professional Experience

- 2021-Present – Acoustical Consultant, ABD Engineering & Design, Inc., Grand Rapids, Michigan
- 2019-2021 – Mechanical Engineering Intern, HDR, Omaha, Nebraska

Professional Memberships

- Acoustical Society of America
- Institute of Noise Control Engineering (INCE)
- American Society of Testing and Materials
- National Council of Acoustical Consultants

Education

- Master of Architectural Engineering, University of Nebraska, Lincoln, NE, 2021.
- Bachelor of Science of Architectural Engineering, University of Nebraska, Lincoln, NE, 2020.

Project Experience

- Oregon State University
Fairbanks Hall
Corvallis, OR
- Minot State University
Hartnett Hall
Minot, ND
- Sinclair Community College
Distance Learning
Dayton, OH
- Grand Rapids Community College Secchia Institute for Culinary Education
Grand Rapids, MI
- Oregon Health and Science University Dispatch
Portland, OR
- Corewell Health Ambulatory
Grand Rapids, MI
- PeaceHealth Riverbend
Springfield, OR
- Portland Providence Medical Center Main Emergency Department
Portland, OR
- Interlochen Center for the Arts
Interlochen, MI
- Jackson Hole Classical Academy
New High School
Jackson Hole, WY
- Hudsonville Christian School
Hudsonville, MI
- Wheaton Academy
West Chicago, IL
- Kellogg's Headquarters
Battle Creek, MI
- LinkedIn Detroit
Detroit, MI
- Disability Advocates of Kent County
Grand Rapids, MI
- Wolverine Worldwide Broadcast Studio
Rockford, MI
- Cannon Muskegon Noise Study
Muskegon, MI
- Grand Rapids Public Museum
Grand Rapids, MI
- Southtown Guitar
Grand Rapids, MI



Faulkner Bodbyl-Mast is an audiovisual and acoustical consultant, having earned a bachelor's degree in Sound Engineering, with a minor in Electrical Engineering. Faulkner is an AVIXA Certified Technical Specialist (CTS). You might work with him in either or both capacities at ABD.

Faulkner's interest in sound came from his passion for music. He started attending Grand Rapids Symphony Orchestra concerts as a child and developed as an instrumentalist through grade school and high school, picking up the euphonium and carrying it into college. Once exposed to electronic music, Faulkner's interest shifted from performance to technical arts. He combined his early musical training with technology and blossomed into composing, recording, and music production. Faulkner provided sound design for live theater productions and began 3D sound modeling to

create sound design for video games.

Acoustics and AV go together, as the inherent quality of the built environment is designed and tuned by engineering and supported and enhanced by the electronics. Faulkner notes the acoustics of a space and systems within it must compliment each other or they will undermine each other.

Aside from his work in acoustics and audiovisual design, Faulkner is passionate about music. Gifted in composing, performing, and recording electronic pieces, you might find his compositions on SoundCloud.

Professional Experience

- 2022-Present – Audiovisual & Acoustical Consultant, ABD Engineering & Design, Inc., Grand Rapids, Michigan
- 2022 - Acoustical Intern, Kirkegaard, Chicago, Illinois
- 2019-2022 – Media Assistant, Duderstadt Center, Ann Arbor, Michigan
- 2019-2022 – Audio Director, Composer, Sound Designer, Wolverine Soft Studio, Ann Arbor, Michigan

Professional Memberships and Certifications

- AVIXA (InfoComm International), Certified Technical Specialist
- CTS
- Audio Engineering Society
- American Institute of Architects, Professional Affiliate
- National Council of Acoustical Consultants

Education

- Bachelor of Science in Sound Engineering, minor Electrical Engineering, University of Michigan, Ann Arbor, 2022.

Project Experience

- | | | |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------|
| • Hope College
Dewitt Center for Economics and Business, Holland, MI | • City of Troy Council Chambers
Troy, MI | • Amity Middle School and High School
Amity, OR |
| • Oregon State University
Fairbanks Hall
Corvallis, OR | • Portland Art Museum Rothko Pavilion, Portland, OR | • Spokane Pubic Schools
Lewis and Clark High School
Spokane, WA |
| • Oregon State University
Student Success Center
Corvallis, OR | • Rogue Credit Union Community Complex Sports and Events
Medford, OR | • NAMI Oregon
Portland, OR |
| • Columbia Gorge Community College Nursing SIM Lab
The Dalles, OR | • Wheaton Academy
West Chicago, IL | • Peace Church
Middleville, MI |
| • Hillsboro Civic Center
Hillsboro, OR | • St Paul Center
Steubenville, OH | • Gardens of Sun City Senior Living, Sun City, AZ |
| • Chehalem Cultural Center
Newberg, OR | • Ben Davis High School
Indianapolis IN | • Senior Living
Peoria AZ |
| | • Potter Elementary School
Flint, MI | • Happy Valley Library
Happy Valley, OR |
| | • Illiana Christian High School
Lansing, IL | |



Lauren Slattery is an acoustical consultant newly located in Portland, OR. She is a graduate of Belmont University where she earned her bachelor's of science degree in Audio Engineering Technology, with a Physics minor.

Lauren comes to ABD Engineering & Design directly from her internships at NASA Ames Research Center and NASA Marshall Space Flight Center, where she performed acoustical testing and assisted with acoustical aspects of aircraft, satellites, engines, and their components. Lauren is building her architectural acoustical experience through mentoring with ABD staff. She is proving to be a quick study and is taking on her own project work.

Lauren describes herself as outdoorsy and enjoys hiking, climbing, and kayaking. She loves road trips and travel, reading, and baking - especially pastries.

Professional Experience

- 2024-Present – Acoustical Consultant, ABD Engineering & Design, Inc., Portland, Oregon
- 2024 – Acoustic Support Intern, NASA Ames Research Center, Mountain View, California
- 2023-2024 – Acoustic Test Support Intern, NASA Marshall Space Flight Center, Huntsville, Alabama
- 2021-2024 – Audiovisual Technician, Columbus Zoo and Aquarium, Columbus, Ohio
- 2022 – School of Music Audio Crew, RF Technician, Stagehand, Belmont University, Nashville, Tennessee

Education

- Bachelors of Science: Audio Engineering Technology, Physics Minor: Belmont University, Nashville, TN, 2023

Professional Certifications

- ProTools User Certified
- Dante Certification 3

Professional Memberships

- Audio Engineering Society
- Women in Audio
- Acoustical Society of America
- Institute of Noise Control Engineering (INCE)
- American Society of Testing and Materials
- National Council of Acoustical Consultants

Project Experience

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|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| • Oregon State University
Corvallis, Magruder Hall,
Corvallis, OR | • Colonia de Valle Prospero,
Affordable Housing,
Albany, OR | • Wind Tunnel Acoustic Data
Processing,
Mountainview, CA |
| • Sous La Rose Social Club and
Event Space,
Portland, OR | • RogueX Credit Union Community
Complex, Aquatics, Sports, and
Events Center
Medford, OR | • Ocean Way Recording Studios,
Final Recording Project for
Studio Recording II
Nashville, TN |
| • Micronesian Islander
Community's Voyagers' Village,
Affordable Housing,
Salem, OR | • Acoustic Test Stand Design,
Mountainview, CA | • Foley and ADR group recording
project
Nashville, TN |

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