



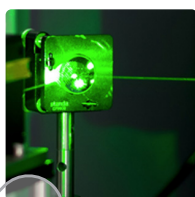
ABD Engineering & Design

Architectural Acoustics ▪ AV Design ▪ Noise & Vibration

Noise and Vibration

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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ABD Engineering & Design

Architectural Acoustics • AV Design • Noise & Vibration

Sound Engineering for Industrial, Transportation, and Environmental Noise and Vibration

Noise and Vibration Solutions from Professional Engineers

ABD Engineering & Design is an independent consulting firm specializing in acoustical engineering and noise and vibration control for industrial facilities, environmental land use, and transportation. No matter how complex the noise or vibration issue, we can help you solve it. Using the most advanced sound and vibration meters and the most current 3D modeling technology, our professional engineers analyze each project and design unique and cost effective solutions that are customized to the application. We work with architects, attorneys, building owners, city planners, facility directors, safety officers, and plant managers to reduce noise pollution and unwanted vibration at the source.



Industrial Noise Control

Manufacturing facilities are some of the loudest environments we encounter. ABD can measure Occupational Noise exposure by dosimeter to determine compliance with OSHA standards, and whole body vibration compliance with ISO standards. In addition, we assist in airborne noise exposure control for industrial plant workers in manufacturing facilities, power stations, and other facilities where noise levels can be a serious problem. We determine the source and quantity of the problem, and we design solutions that bring levels within the legal limits, reducing company liability and leaving workers happy.



Vibration Isolation

Sound fields are complex and can come from both internal and external sources. In healthcare, MRI systems and Hybrid OR spaces need advance analysis. Stamping presses, generators, and pumping facilities can cause vibration issues in adjacent residential areas. Conversely, nearby train tracks, busy streets, high winds, HVAC equipment, pumps, and much more can simultaneously impinge on your structure. Sifting through the sound field for the precise source of a disturbing vibration takes sophisticated acoustical analysis. Using spectral and FFT analysis, our professional engineers isolate equipment vibration and make thorough assessments of transportation, industrial, and commercial sources. We offer practical, concise, and cost effective advice for isolating even the most complex vibration issues.



Environmental Noise Assessments

Noise pollution is a hot topic issue in environmental regulations, politics, and in our neighborhoods. A large body of legislation is now in place to limit and/or prevent it. ABD can measure sites for background noise levels, and we determine whether industrial, aircraft, rail, mining, and road noise levels comply with government regulations.

Building Systems Noise Control

At ABD Engineering & Design, we provide acoustical guidelines for HVAC, lighting, electrical, plumbing, and structural noise issues, and we recommend cost-effective noise and vibration control solutions. We consult on the design of wall, window, floor, and ceiling construction; the control of plumbing and elevator noise; and the management of the noise of indoor and outdoor equipment.

Objective Recommendations

As an independent consulting firm, we are driven by the needs of our clients, not by sales quotas. Since we do not sell products or equipment, you can be sure that our solutions are free from bias and best suited for the situation.



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 seminars, conferences, workshops, and institutional training sessions on architectural acoustics, AV design, and environmental noise and vibration control.

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.



Noise & Vibration

Selected Experience



Air Flow Equipment, Inc.
Bloomington, MI

American Electric Power - Dresden
Morris, IL

American Superconductor
Wind Farm Electrical Substation Noise
Devens, MA

Avon Distribution Center
Chicago, IL



Bassett Healthcare
Cooperstown, New York

Bausch + Lomb
Clearwater, FL

Benchmade Knife Co Inc.
Industrial Noise Study
Oregon City, OR

Canby Sand & Gravel
Canby, OR

Cardno-Calico Grassy Mountain Gold
Malheur County, OR

Community Noise Studies
City of Elkhart, IN
City of Kalamazoo, MI
City of Novi, MI
City of West Allis, WI
Clarkston, MI
Cleveland, OH
Grand Rapids, MI
Independence Township, MI
Milwaukee, WI

DD Marquardt Mining
Noise Study
Kelso, WA

Delta Sand and Gravel Expansion
Eugene, OR

Dematic Corporation
Grand Rapids, MI

Dollar General Center
Jonesville, SC

DuPont Fabros Data Center
Elk Grove Village, IL

Eagle Transportation
Grand Rapids, MI

Emerald Kalama Chemical LLC
Industrial Noise Control
Kalama, WA

Ford Motor Company
Maintenance and Operations
Dearborn, MI

G&K Services
Noise Study
Indianapolis, IN

General Motors Corporation
Arlington, TX
Defiance, OH
Design Center Warren, MI
Fuel Cell Relocation Detroit, MI
GM Studio Warren, MI
Industrial Noise Study Wixom, MI
Vibration Study Wyoming, MI

Grand Traverse Stamping
Employee Noise Exposure & Noise Study
Traverse City, MI

GRP Pan Mine
White Pine County, NV

Harvey Street
Road Noise Study
Norton Shores, MI

Hemlock Semiconductor Corp.
Hemlock, MI

Holtec International
Condenser - Noise Modeling
Marleton, NJ

Huron County Wind Farms
Bad Axe, MI

Indigo Hotel and Kirkland Tower
Vancouver, WA

Knife River Corporation
Coffee Lake
Sherwood, OR

Kohls Distribution Center
Macon, GA

Lockheed Martin
Elmira, New York

Meijer Inc.
Environmental Noise Study
Grand Rapids, MI
Urbana, IL

Michigan Institute of Aviation and Technology
Bellville, MI

Michigan State University
Chiller - Cooling Tower
East Lansing, MI

Michigan Turkey
Offices and Conference Rooms
Wyoming, MI

Pall Filter Specialists
Industrial Noise Study
Michigan City, IN

Pella Corporation
Sioux Center, IA

Pfizer
Holland, MI
Kalamazoo, MI

Randy's Recycling
Muskegon, MI

Rayonier Inc.
Chip Process Facility Noise Study
Quitman, GA

Semblex
Warehouse/FDS Factory
Quality/Sorting
Elmhurst, IL

SC Johnson
Manufacturing Lines
Bay City, MI

Smithfield Packing Company
Plant Measurements & Mitigation
Tar Heel, NC

Steelcase, Inc.
LOV, VIA Portable Solution
Kentwood, MI

Tommy Car Wash Systems
Environmental Noise Study
Grandville, MI

Toyota North American
Parts Center
Hebron, KY

Tri-State
Dry Cooler Fan Noise Reduction
Wyoming, MI

TriMet
Pedestrian Crossing Warning Bells
Steel Bridge Relay Vibration
Portland, OR

Waste Water Treatment Plant
Big Rapids, MI

Weatherford International Inc
Rotaflex Pumps
Odessa, TX

Wolverine Gas and Oil
Headquarters Renovation
Grand Rapids, MI

Wrigley Jr. Co
Manufacturing Noise
West Chicago, IL

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



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

Transportation Projects

Project Name **TriMet MAX Light Rail Warning Bells**

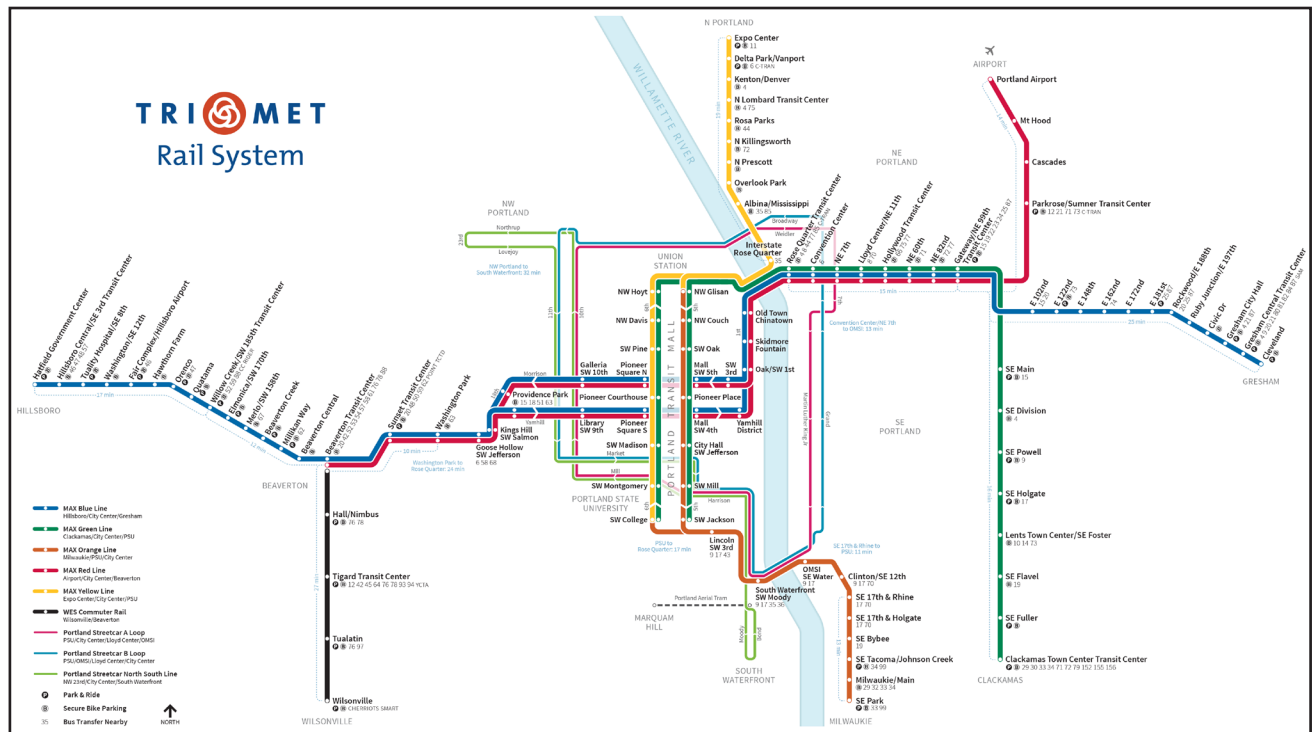
Location **Portland, Oregon**

Size **40 Locations**

Completed **2018**

Description Beginning with measurements taken in 2015, ABD Engineering & Design worked with TriMet to conduct sound measurements of warning bells at MAX Light Rail pedestrian crossings. When it was discovered that the bells were not at a consistent sound levels, and usually so loud that the neighbors were disturbed, ABD developed recommendations for adjusted sound levels from the bells. The warning bells needed to be loud enough for public safety but as quiet as possible for neighbors, and needed to be consistent throughout the system.

Measurements and modifications were made at representative locations throughout the light rail system. ABD helped TriMet establish a specific noise criteria specification through extensive lab and field testing. The new levels are now consistent across different street and intersection types, providing louder and softer bell sounds depending on the relative activity at the intersections.



Industrial Projects

Project Name **Ferris State University
Swan Engineering and Technical Arts Building**

Location Big Rapids, Michigan

Cost and Size \$30 Million - 77,400 SF (30,300 SF addition)

Year Completed 2016

Description ABD Engineering & Design was hired by architectural firm Neumann/Smith Architecture to design comprehensive Acoustics, Audio, Video, IT, and Digital Signage systems for this engineering and technical arts facility of the future.

Photos are pre-renovation



Industrial Projects

Project Name **Ridgeview Industries**

Location Grand Rapids, Michigan

Size 304,920 SF

Completed 2014

Description ABD Engineering & Design worked with A.M.D.G. Architects, Inc., to design comprehensive architectural acoustics in the Ridgeview Industries Corporate Headquarters. The office, common areas, and manufacturing facility were designed to flow together as much as possible. The plans included a gymnasium, cafeteria, commons area, and exercise room, as well as a waiting room and meeting room. The facility houses everything from loud sports activities to sensitive office conversations, all under the same roof. To make the challenge greater, the new space would be added onto an existing manufacturing facility, sharing a load-bearing wall.

ABD worked to develop an intricate plan for addressing the multiple acoustical issues. We made recommendations for construction features that would lower the reverberation time in the larger spaces, like the gym, and café, while raising the sound isolation in the smaller spaces, like the waiting room and meeting room. Our design provided Ridgeview Industries with the proper amount of acoustical treatment to meet their needs for years to come.



Photos courtesy of A.M.D.G. Architects.



Industrial Projects

Project Name **DuPont Fabros Technology**

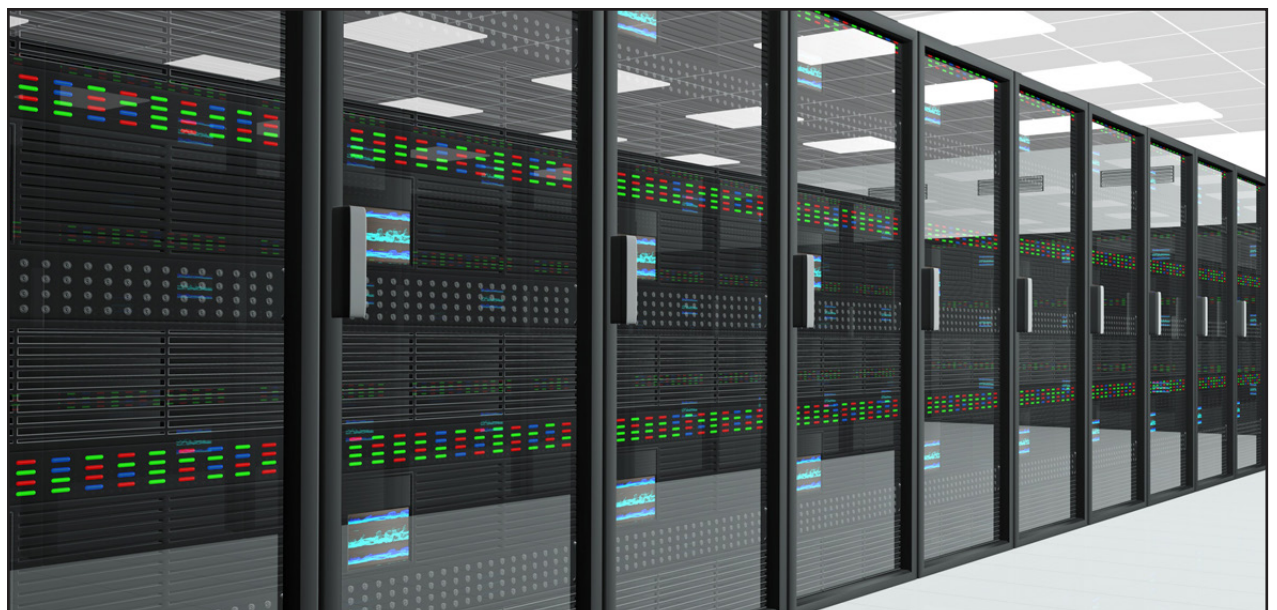
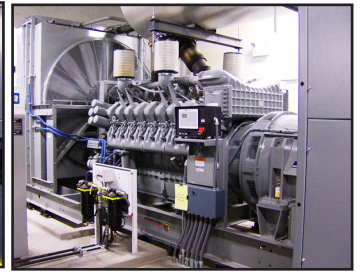
Location Elk Grove Village, Illinois

Size 485,000 SF

Completed 2012

Description Dupont Fabros Technology is well known throughout the high-tech world as a premiere builder of Data Centers. Microsoft, Yahoo, and other technology companies lease space with DuPont Fabros Data Centers to house, power and cool the computer servers that support many of their most critical business processes.

ABD Engineering & Design was brought in to make recommendations for Mechanical Noise Control at their Elk Grove, Illinois, location. Their concern was to make sure the noise levels would be in compliance with the local community ordinances. Our consultation included an in-depth analysis of the acoustical needs of the facility and a thorough project report identifying solutions that were both practical and cost effective.



Industrial Projects

Project Name **JLG Industries**

Location McConnellsburg, Pennsylvania

Project Community Noise Study

Completed 2009

Description ABD Engineering & Design worked with JLG Industries to conduct a noise study of their outdoor operations at their facility, near a residential neighborhood.

ABD engineers established baseline noise levels with 24-hour sound measurements, A-weighted over one-hour intervals (Leq). During the long-term measurements, staff conducted spot measurements of machinery, traffic and other activities on the site to quantify the major noise sources.

Our report compared the noise levels measured on the site with the local noise ordinance, along with industry standards for exterior noise.



Healthcare Projects

Project Name **Kaiser Permanente
Sunnyside Medical Center
Hybrid OR and CVL**

Location Clackamas, Oregon

Year Completed 2018

Description Selecting and verifying locations for a hybrid operating room (hybrid OR) and a central venous line (CVL) procedure room requires specialized vibration analysis and mechanical noise and vibration control. ABD Engineering & Design worked closely with PKA Architects (Peterson Kolberg and Associates Inc. PC) to evaluate the site for the Kaiser Permanente Sunnyside Medical Center Hybrid OR and CVL rooms to be sure the site would meet both the manufacturer's vibration criteria as well as FGI footfall vibration criteria. Likewise, coordination with the structural engineer was critical to the project's success.

ABD performed an initial **vibration study** and provided recommendations for vibration control needed for the vibration-sensitive equipment. Our measurements focused on vibration induced from footfall within the building and from existing mechanical equipment.

Later, when an additional new rooftop mechanical unit was added to the project, we evaluated the HVAC manufacturer's proposed vibration isolation and engineered additional recommendations to further isolate and prevent the **potential structure-borne vibrations and airborne noise**.



Healthcare Projects

Project Name **Tacoma General Hospital
MRI Suite Renovation and Expansion**

Location Tacoma, Washington

Year Completed 2018

Description ABD Engineering & Design worked with Clark Kjos Architects to conduct an MRI vibration study at the Tacoma General Hospital Multicare Regional Cancer Center.



Our Professional Engineer and vibration expert conducted a vibration study for the renovation and expansion of MRI services at Tacoma General. An additional magnet was added in a new MRI suite. The vibration study included active vibration levels (with vehicle traffic in the adjacent parking lot, pedestrian traffic, opening and closing of doors, elevator operation, etc). Conversely, our engineer made quiet vibration levels with no vehicular or pedestrian traffic in the area or near the proposed MRI. We used noise level measurements to identify HVAC and other sources that might cause vibration levels to exceed the manufacturer's vibration criteria.

Our engineered recommendations included general recommendations for vibration mitigation – through coordination with a structural engineer – as well as specific acoustical design of noise isolation around the MRI suite and between critical adjacent spaces.



Healthcare Projects

Project Name **Kaiser Permanente Salmon Creek Medical Office
MRI Vibration Study**

Location Vancouver, Washington

Year Completed 2018

Description ABD Engineering & Design worked with Anderson Dabrowski Architects to conduct an MRI vibration study at the Kaiser Permanente Salmon Creek Medical Office building.

Our Professional Engineer and vibration expert, performed simultaneous vibration measurements inside the MRI room and at the site of the MRI trailer to determine if the two sites experience similar levels of vibration.

Our consultant also made measurements at exterior locations near the MRI room and near the nearby interstate to identify any structures that were resonating and amplifying vibration levels from I-5 traffic.



Healthcare Projects

Project Name	Cleveland Clinic Richard E. Jacobs Health Center Tower Expansion
Location	Avon, OH
Year Completed	2016
Size and Cost	221,500 SF, \$143 Million
Description	ABD Engineering & Design provided comprehensive consultation for Architectural Acoustics including external freeway noise mitigation , room noise, sound isolation, and acoustical finishes, in compliance with the FGI Guidelines for Design and Construction of Healthcare Facilities, and LEED for Healthcare. Designed as a “hospital of the future,” Cleveland Clinic’s Avon Patient Tower expansion has 126 private hospital rooms, including a small intensive care unit which can be converted into an observation or a medical-surgical unit based on patient needs.





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

- | | | |
|--|---|---|
| • Linfield College, Murdock-Gräf, McMinnville, OR | • Portland Community College, Cascade Campus, Public Service Education Building, Portland, OR | • Oregon State University, Fairbanks Hall Renovation, Corvallis, OR |
| • Schirle Elementary School, Salem, OR | • Tillamook High School, Auditorium, Tillamook, OR | • Mayo Clinic, Behavioral Health, Albert Lea, MN |
| • 1122 SE Hawthorne, Residential Mixed Use, Portland, OR | • Oregon Humane Society, Portland, OR | • University of Oregon, Autzen Stadium, Eugene, OR |
| • German Village, Residential Mixed Use, Columbus, OH | • Wenaha Baker Schools, Theater, Baker City, OR | |
| • Victory Charter School, Performing Arts, Nampa, ID | • PDX Power Punch, Title Boxing Fitness, Portland, OR | |
| • Sprague High School, Salem, OR | | |



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

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



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 |



Benjamin Wolf

Senior Acoustical Consultant
INCE Bd. Cert. bwolf@abdengineering.com



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

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

- | | | |
|---|---|---|
| • South Cooper Mountain Apartments, Beaverton, OR | • Hermiston Schools (Theater Lane Elementary School, Rocky Heights Elementary School, High School Classroom Annex and CTE), Hermiston, OR | • Northwest Pipe Company, Open Office Acoustics, Vancouver, WA |
| • Wood Village Mixed Use, Wood Village, OR | • Dry Creek Landfill, Noise Study, Eagle Point, OR | • Columbia Shores Townhouses, Overlay Noise Study, Vancouver, WA |
| • Farmdale Apartments, North Hollywood, CA | • Kaiser Permanente, Sunnyside Medical Center, Clackamas, OR | • Wood Village Mixed Use, HUD Noise Study, Wood Village, OR |
| • L&M Industrial Fabrication, Lot Expansion Barrier Calculations, Tangent, OR | • United Natural Foods, Noise and Vibration Study, Ridgefield, WA | • Clackamas Federal Credit Union, Corporate Headquarters, Oak Grove, OR |
| • USANA Sciences Company, Packaging Area, Valley City, UT | • Threemile Canyon Farms, Generator Exhaust, Boardman, OR | |
| • TriMet, Columbia 10, Portland, 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

- | | | |
|--|--|---|
| • Public Museum, Grand Rapids, MI | • Riverview Church, Auditorium, Holt, MI | • Forslund Condominium, Impact Isolation, Grand Rapids, 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

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

- | | | |
|--|---|---|
| • 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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