

MICHAEL A. STAIANO

—General Resume—

EXPERIENCE:

1982– Staiano Engineering, Inc.

Principal

Founder of Staiano Engineering. Managed and performed over 625 varied noise and vibration engineering projects for industrial, governmental, and commercial clients. Projects include noise and vibration measurement, analysis, prediction, and design services for environmental, occupational architectural, research, and product development requirements. **SAMPLE PROJECTS:**

Environmental—Measurement, prediction, and mitigation (including source treatment, noise barrier and building soundproofing design) of: highway noise and vibration, railroad/rail transit line and yard noise, and airport/aircraft and heliport/helicopter noise. Measurement, prediction and control of: surface mining equipment emissions, and extraction operation and processing-plant noise; asphalt and concrete batching plant noise; and construction site noise and vibration. Trucking facility noise prediction and control. Pumping station and wastewater treatment facility noise testing. Steam-turbine power plant noise measurement, source identification, and quieting; combustion-turbine site ambient noise survey and noise emissions testing; diesel-generator plant noise control design; transformer substation noise prediction and control; induced-draft (ID) fan quieting. Building mechanical equipment testing. Small-arms firing range noise prediction and control.

Occupational—Worker exposure and dose measurement. Noise and vibration abatement (source modification, passive and active controls, and administrative changes) in: steel mills, chemical and petrochemical plants, polypropylene and plastics plants, automotive engine and component plants, power plants, press-room, printing plant, steel fabrication plant, sawmill, punch press and metal forming operations, shop tool and woodworking operations, brewery/bottling plant, concrete block and pipe manufacturing, drilling operations, shoe manufacturing, and indoor firing range.

Architectural—Mechanical equipment noise and vibration measurement and control (e.g., chillers, cooling towers, condensing units, elevators, and diesel-generator sets). Building facade noise isolation testing; secure room and multifamily dwelling inter-unit noise isolation evaluation; and inter-office speech privacy improvement. Recording studio and video-teleconference facility evaluation and quieting. Ambient building noise and vibration testing and control. HVAC system specification.

Research and Development—Noise source sound power level determination. Acoustical test facility design and reverberant room qualification. Tire-pavement sound intensity testing. Vibration isolation evaluation of HVAC building for nanoscience research laboratory. Silencer performance testing.

1979–82 ORI, Inc.

Program Director

Managed, supervised, and performed acoustical engineering projects primarily for environmental requirements. **SAMPLE PROJECTS:** heavy truck engine cooling fan quieting; surface mining noise measurement, prediction, and control; light vehicle exhaust system noise measurement; railroad coal line noise prediction and mitigation; air-carrier airport noise-exposure and building soundproofing analyses; aircraft auxiliary power unit (APU) and ground power unit (GPU) noise evaluation.

1976–79 Booz, Allen and Hamilton, Inc.

Project Engineer

Managed and performed acoustical engineering projects for environmental and occupational requirements. **SAMPLE PROJECTS:** power lawn mower environmental impact analysis; transit, inter-city, and school bus noise measurement and control; mining machinery quieting.

1970–76 Westinghouse Electric Corp.

Engineer

Performed noise and vibration engineering projects, primarily laboratory and field studies of steam-turbine power plant equipment for research and product development requirements. **SAMPLE PROJECTS:** steam turbine-generator set noise control design; turbine-generator sound power level estimation; fossil and nuclear power station field noise surveys; reverberation chamber qualification and calibration; community noise survey; nuclear turbine control valve field and laboratory measurements and analyses; manufacturing and laboratory facility noise control.

1969–70 Sikorsky Aircraft

Engineer

Performed experimental and analytical studies of helicopter and ground transportation vehicle noise. **SAMPLE PROJECTS:** helicopter impulsive noise and rotor-vortex interaction noise investigations.

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EDUCATION:

B.S., New York University, Aeronautical Engineering -1969
Graduate course work in Acoustics and Aerodynamics, New York University 1969-1970
Graduate course work in Acoustics, University of Pennsylvania -1974
Various short courses including: Microphone and Accelerometer Calibration, Vibration Control, Time Series Analysis, Correlation and Coherence Analyses, and Modal Analysis

LICENSES and CERTIFICATIONS:

Registered Professional Mechanical Engineer: District of Columbia, No. 7453; State of Maryland, No. 13420; State of Pennsylvania, No. PE-039568-R; and State of Virginia, No. 024530.
Board Certified in Noise Control Engineering, Institute of Noise Control Engineering (INCE).
Certified Instructor, U.S. Federal Highway Administration (FHWA) National Highway Institute (NHI).

PROFESSIONAL HONORS and ACTIVITIES:

Recipient: Harter Rupert Best Paper of 2001 Award, Transportation Research Board (TRB) Committee A1F04, Transportation-Related Noise and Vibration.
Member: County Executive's Noise Study Group for Noise Policy for County Transportation Projects, Montgomery Co., Md., 2000-2001
Committee Member: Transportation Research Board (TRB), Committee ADC40, Transportation-Related Noise and Vibration; American Society for Testing and Materials (ASTM) Committee E-33, Environmental Acoustics.
Member: Acoustical Society of America (ASA), American Society of Mechanical Engineers (ASME), American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), American Industrial Hygiene Association (AIHA), Society of Automotive Engineers (SAE).

SEMINARS and LECTURES

"Highway Traffic Noise" course instructor for National Highway Institute (NHI) of U.S. Federal Highway Administration (FHWA), NHI Course No. 142051, 2007- .
"Engineering Noise Control" lectures for Council for Accreditation in Occupational Hearing Conservation (CAOHC) training course, Washington Hearing & Speech Society/Washington Occupational Health Associates, Inc., 1985-2003.
"Basic Acoustics" lecture, Chesapeake Chapter Vibration Institute Seminar, 1994.
"Highway Noise Training Course," Montgomery Co. (Maryland) Department of Transportation (DOT), 1989.
"Traffic/Industrial Noise Modeling" lecture, "Computational Methods for Noise Control" Institute of Noise Control Engineering (INCE) Seminar, 1988.

PUBLICATIONS and PAPERS (Partial Listing):

"Simple Methods for Estimating Highway Noise," Paper No. 09-0126 Presented to the 88th Annual Meeting of Transportation Research Board (TRB), Washington, DC, 14 January 2009.
"Noise Emissions Measurements Near Tight Curves," Presented to the Wayside Transit Noise and Vibration Methodologies and Criteria Workshop of the 88th Annual Meeting of Transportation Research Board (TRB), Washington, DC, 11 January 2009.
"A Field Guide to Animal Sounds," Presentation to the Summer Meeting of Transportation Research Board (TRB) Committee ADC40 on Transportation-Related Noise and Vibration, Key West, FL, 23 July 2008.
"Age-Weighted Sound Levels," Noise Control Engineering Journal, Vol. 55, No. 5, September-October 2007.
"Comparison of Green and Conventional Diesel Bus Noise Levels" (with J.C. Ross), Proceedings of Noise-Con 2007, October 2007.
"Representing Highway Noise Exposures—Downfall of Contourtonists," Sound & Vibration Magazine, Vol., 40, No. 8, August 2006.

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PUBLICATIONS and PAPERS (continued):

“Highway-Compatible Residential Development—A Feasible Ideal,” TR News, No. 240, Transportation Research Board (TRB), National Research Council, Washington, D.C., Sep-Oct 2005.

“Musical Pavements,” Sound & Vibration Magazine, Vol., 39, No. 8, August 2005.

“Traffic Noise Model vs. Extreme Topography,” Journal of the Transportation Research Board, Transportation Research Record TRR No. 1859, Washington, D.C., 2003.

“Noise Impact Estimates per FTA and APTA Criteria,” Journal of Sound and Vibration, Vol. 267, Pg. 407–418, 2003 (presented at 7th International Workshop on Railway Noise [IWRN], Portland, Me, 2001)

“Comparison of Light-Rail and Bus Transit Noise Impact Estimates per FTA and APTA Criteria,” Journal of the Transportation Research Board, Transportation Research Record TRR No. 1756 Washington, DC, 2001.

“Experience Predicting Construction-Site Noise,” Journal of the Transportation Research Board, Transportation Research Record TRR No. 1702, Washington, DC, 2000.

“Equipment Measurements for Site Noise Predictions,” Paper No. 95-TP59.05 presented at 88th Annual Meeting of Air & Waste Management Association (A&WMA), San Antonio, Tx, 1995.

“A Procedure for Correcting Sound Level Measurements for Background Noise Influences,” Paper No. 94-WA/NCA-7 presented at American Society of Mechanical Engineers (ASME) International Congress and Exposition, Chicago, Il, November 1994.

“Considerations for Site Noise Prediction,” Paper No. 94-TP46.01 presented at 87th Annual Meeting of Air & Waste Management Association (A&WMA), Cincinnati, Oh, 1994.

“Avoiding Noise Problems from Stationary Facilities,” Paper No. 93-WP-70B.03 presented at 86th Annual Meeting of Air & Waste Management Association (A&WMA), Denver, Co, 1993.

“Control of Wheel Squeal Noise in Rail Transit Cars” (with G. Sastry), Energy and Environment 1990: Transportation-Induced Noise and Air Pollution, Transportation Research Board (TRB), Transportation Research Record No. 1255, 1990.

“Barrier Attenuation in the Presence of Reflecting Walls,” Inter-Noise 86 Proceedings, July 1986.

“OSHA Noise Exposure Due to Intermittent Noise Sources,” Sound & Vibration Magazine, Vol. 20, No. 5, May 1986.

“Parallel Barrier Attenuation Degradation,” Paper presented to Transportation Research Board (TRB) Committee A1F04 Summer Meeting, 2 July 1985.

“Synthesis of Disc-Brake Squeal Quieting Experience,” Issues in Transportation Noise Mitigation: Highway and Railway Studies, TRB, Transportation Research Record No. 983, 1984.

“Sound Level Reduction Due to Repair of Defective Exhaust Systems,” Noise Control Engineering Journal, Vol. 21, No. 2, 1983.

“Engine Cooling System Quieting,” Proceedings of Noise-Con 83, March 1983.

“Environmental Noise from Surface Mining Operations,” Proceedings of Inter-Noise 82, May 1982.

“Sound Power Level Determination of In-Use Machines,” Measurements for Industrial Noise Control, American Society of Mechanical Engineers (ASME), 1979.

“Steam Turbine Control Valve Noise” (with F.J. Heymann), Paper presented at the 85th Meeting of the Acoustical Society of America (ASA), April 1973.