

Andrew F. Seybert

Senior Advisor at US Sound & Vibration Institute

Institution: University of Kentucky

Curriculum: Mechanical Engineering

✧ Degrees, with field, institution and date

Ph.D. Mechanical Engineering, Purdue University, 1975.

M.S. Mechanical Engineering, Purdue University, 1971.

B.S. Mechanical Engineering, University of Cincinnati, 1970.

✧ Number of years of service on this faculty; appointment date.

33 years; January 1, 1977; currently on Phased-Retirement since July 1, 2008

✧ Other related experience

1/05-8/05 Sabbatical, U. Padua, Italy, and KTH, Stockholm, Sweden

7/94 - 6/95 Sabbatical, Technical University of Berlin, Institute of Acoustics

1989- 1992 Reviewer, ABET

7/88 - 6/94 Chairman, Mechanical Engineering, University of Kentucky

1/76 - 12/76 Visiting Assistant Professor, Purdue University

1971 - 1974 Engineer, Cummins Engine Company, Columbus, Indiana

✧ Consulting

Cummins Engine Company, Columbus, Indiana

Navistar International, Ft. Wayne, Indiana

Volvo Trucks USA, Allentown, Pennsylvania



✧ States in which registered
Kentucky, Ohio

✧ Principal publications of last five years

Liu, J., Herrin, D. W., and Seybert, A. F., "Application of Micro-Perforated Panels to Attenuate Noise in a Duct," SAE Transactions, Journal of Passenger Cars – Mechanical Systems, Vol. 116, Section 6, pp. 1629-1633, 2007.

Han, J., Herrin, D. W., and Seybert, A. F., "Accurate Measurement of Small Absorption Coefficients," SAE Transactions, Journal of Passenger Cars – Mechanical Systems, Vol. 116, Section 6, pp. 1701-1705, 2007.

Martinus, F., Herrin, D. W., and Seybert, A. F., "Selecting Measurement Locations to Minimize Reconstruction Error Using the Inverse Boundary Element Method," Journal of Computational Acoustics, Vol. 15, No. 4, 2007.

Herrin, D. W., Wu, T. W., and Seybert, A. F., "Boundary Element Modeling," Chapter 8, Handbook of Noise and Vibration Control, John Wiley, pp. 116-127, 2007.

Herrin, D. W., Tao, Z., Scalf, E. L., Allen, S. A., and Seybert, A. F., "Using Numerical Acoustics to Predict the Attenuation of HVAC Plenums," ASHRAE Transactions, Vol. 113, Part 1, 2007.

Herrin, D. W., Tao, Z., Carter, A. E., Liu, J., and Seybert, A. F., "Using Numerical Methods to Analyze Multicomponent HVAC Systems," ASHRAE Transactions, Vol. 113, Part 1, 2007.

Herrin, D. W., Tao, Z., Liu, J., and Seybert, A. F., "Using Boundary Element Analysis to Analyze Multi-Component Exhaust Systems," SAE Noise and Vibration Conference, St. Charles, Illinois, May 15-17, Paper No. 2007-01-2182, 2007.

Herrin, D. W., Martinus, F., Wu, T. W., and Seybert, A. F., "An Assessment of the High Frequency Boundary Element and Rayleigh Integral Approximations," Applied Acoustics, Vol. 67, pp. 819-833, 2006.

✧ Scientific and professional societies of which a member

Acoustical Society of America

American Society of Mechanical Engineers

International Institute of Acoustics and Vibration

Institute of Noise Control Engineering

IEEE

✧ Honors and awards

SAE Lloyd L. Withrow Award, 2006

Fellow, International Institute of Acoustics and Vibration, 2004

SAE Presentation Award, 1989, 2001, 2003

Special recognition by the SAE for role in the SAE Academy training

Fellow, American Society of Mechanical Engineers, 1998

Navy/ASEE Distinguished Summer Faculty Fellow, 1992

Fellow, Acoustical Society of America, 1989

SAE Oral Presentation Award, 1989

Faculty Incentive Award, University of Kentucky, 1988-91

Nelson Industries National Acoustical Paper Award (First Prize), 1981

NASA/ASEE Summer Faculty Research Fellow, 1978

Tau Beta Pi, National Engineering Honorary

Pi Tau Sigma, National Mechanical Engineering Honorary

Sigma Xi, National Research Society

✧ Institutional and professional service in the last 5 years

Director, UK Vibro-Acoustics Consortium (through 2008)

Tenure and Promotion Committee (through 2008)

Systems and Design Committee (through 2008)

Laboratory Committee (through 2008)

✧ Professional development in the last 5 years.

Numerical Acoustics, SAE Vehicle Interior Noise Engineering Academy

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Career Summary

Progression of Career

Andy Seybert graduated from the University of Cincinnati with the BS in mechanical engineering in 1970. He immediately began graduate study at Purdue University and received the MS degree in mechanical engineering in 1971. His first professional position was as an engineer for Cummins Engine Company, Columbus, Indiana, where he remained for approximately three years. During that time he worked in the new field of environmental noise control, helping Cummins design engines to meet domestic and international noise emission regulations. Seybert then returned to Purdue and obtained a Ph.D. so that he could continue research and teaching in the field of vibro-acoustics that had stimulated his interests at Cummins.

Seybert joined the University of Kentucky in 1977 as an assistant professor. He worked his way through the ranks, becoming a full professor in 1988. During this time his research group expanded to approximately a dozen students and colleagues through the support of grants from the NSF, DoT, and NASA. In 1988 Seybert took over the chairmanship of the UK Department of Mechanical Engineering, a position he held until 1994. Feeling a need to reconnect with industry, Seybert spent in 1995 a sabbatical year at the Technical University of Berlin where he was able to visit many automotive companies to learn how German universities and companies collaborate.

Building on his experiences in Germany, Seybert in 1996 organized the University of Kentucky Vibro-Acoustics Consortium, a group of approximately 15 companies interested in the application of vibro-acoustics principles to the reduction of product and environmental noise.

Seybert continues to teach, conduct research, and advise students at UK. In addition to teaching courses in vibro-acoustics, he is responsible for teaching undergraduate courses in instrumentation and measurement and is responsible for the undergraduate mechanical engineering laboratories.

Achievements

Seybert credits any achievements to his excellent engineering education at the University of Cincinnati and Purdue University, his good fortune to have worked with many outstanding students and colleagues during his career, and the support he has received from the University of Kentucky.

As a faculty member and department chairman, Seybert has played a key role in the renovation of the mechanical engineering curriculum at the University of Kentucky. During his tenure, the ME Department has expanded and modernized its curriculum in a number of areas including design, manufacturing, mechanical systems, CFD, and modern measurements and instrumentation. Responding to ABET's renewed emphasis on design in the curriculum in the 1980s, Seybert taught one of the first "capstone" design courses utilizing industrial projects at UK. He later introduced courses in systems analysis and, as Chairman, expanded the graduate program in mechanical systems, manufacturing, and CFD. In 2001 Seybert led a team to update the ME Department's undergraduate courses in measurement and instrumentation. A key objective was to introduce in these courses the use of electronic sensors, actuators, and modern signal processing. He teaches these courses regularly along with other courses in vibro-acoustics, his research specialty.

As a researcher, he and his students created UK's research program in vibro-acoustics which is now recognized as a national leader in the field. Over the years, the vibro-acoustics research program has received several millions of dollars of funding from industry and government. The most important output of this funding has been the education of dozens of students who have taken their place in American industry or academia. Additionally, two of Seybert's Ph.D. students teach in Indonesia and India. UK's vibro-acoustics research program has also resulted in the publication of over 150 technical articles, journal publications, and handbook chapters during the past 30 years.

In 1996 Seybert founded the University of Kentucky Vibro-Acoustics Consortium, the first industrial consortium at the University of Kentucky; recently other consortia at UK have been modeled on the VAC. Members of the VAC include The Trane Company, Caterpillar, John Deere, Harley Davidson Motor Company, Cummins, Lexmark, Dana, Johnson Controls, and others. In addition to helping companies in the field of vibro-acoustics, the VAC has provided training in software simulation and experimental methods, and an opportunity for students to interact with engineers in industry. The VAC recently celebrated 15 years of successful industry/university collaboration.

Part of Seybert's outreach has been his active work in continuing education. Over his career he has taught over 700 engineers in short courses and symposia. He has developed and taught short courses for the SAE, the University of Kentucky, various other organizations, and for private industry. In addition to the U. S., he has taught short courses in other countries such as Germany, Italy, Japan, and Indonesia.

Awards and Honors

On a personal level, Seybert has received a number of national and international awards and honors. In 1990, Seybert was named a fellow of the Acoustical Society of America for research contributions in numerical acoustics and modeling. This was followed in 1998 when he was named a fellow of the ASME. In 2004 Seybert was named a fellow of the International Institute of Acoustics and Vibrations; he is one of only three Americans to have received this honor. Seybert is the only member of the University of Kentucky College of Engineering faculty to have attained fellow status in three professional organizations.

In addition to research awards, Seybert has received the SAE's Oral Presentation Award three times, and in 2006 was awarded the Lloyd L. Withrow Distinguished Speaker Award by the SAE. For his work with SAE's continuing education efforts, he was recognized in 2003 for his role in creating the first SAE Noise Academy.

Seybert has served in numerous positions in the ASME and other professional organizations of which he is a member. He is a member of the Noise Control and Acoustics Division of the ASME and served on NCA's national Executive Committee for three years. He has served as treasurer and a director of the International Institute of Acoustics and Vibration and as a member

of its Scientific Organizing Committee for the past eight international conferences. He has organized technical sessions for numerous conferences and symposia over the years, including the ASME Winter Annual Meeting conferences and the International Congress of Sound and Vibration conferences. He has been invited to give keynote technical talks in at least a dozen conferences during his career.