

## **Robert C. Coffeen, P.E., FASA**

### **PROFESSIONAL POSITIONS**

Lecturer and Adjunct Associate Professor, Architecture Department,  
School of Architecture, Design and Planning  
Member of Graduate Faculty by Special Appointment  
University of Kansas  
Lawrence, Kansas  
1992 - present

Principal...R.C. Coffeen, Consultant in Acoustics, LLC  
Lawrence, Kansas  
January 1996 - present

Founder and Principal Consultant  
Coffeen Fricke & Associates, Inc. (Now known as Avant Acoustics)  
Consultants in Acoustics and Audio Visual Communication  
Lenexa, Kansas  
1964 - 1995 (Retired from firm in December 1995 in order to spend more time teaching)

Principal Engineer  
Burns & McDonnell Engineering Company  
Kansas City, Missouri  
1955 -1964

Radio Engineering Officer  
United States Army  
1953 - 1955

### **EDUCATION**

Bachelor of Science in Electrical Engineering  
University of Illinois  
Champaign-Urbana, Illinois...1953

### **PROFESSIONAL REGISTRATION and PROFESSIONAL SOCIETIES**

Fellow Acoustical Society of America...member 1966 - present,  
elected to Fellowship December 1996, Member Technical Committee on Architectural Acoustics,  
Co-chair Committee on Regional Chapters

Member National Council of Acoustical Consultants

Life Member Audio Engineering Society...1960 - present

Life Member American Society of Heating, Refrigerating, and Air Conditioning Engineers...  
1981 – present

Senior Member United States Institute for Theatre Technology...2009 - present

Registered Professional Engineer State of Kansas...1960 - present

## **COURSES CURRENTLY and RECENTLY TAUGHT and RELATED INSTRUCTION AT THE UNIVERSITY OF KANSAS**

Architecture 520/720...Architectural Acoustics  
Architecture 521/721...Electro-Acoustic Systems  
Portion of Architecture 530...Mechanical System Noise Control  
Portion of Architecture 531...Building Acoustics for Architects  
Architecture 629...Listening to Architecture  
Architectural Engineering 681...Senior Design II, Building Acoustics Emphasis  
Architecture 359...Special Problems in Architecture  
Architecture 700...Directed Readings in Architecture  
Architecture 799...Independent Study in Architecture  
Architecture 600...Acoustic and Theatrical Design Considerations for Performance Facilities  
"Acoustics Studio"...ARCH 700 and ARCH 681 students  
Architecture 899...Thesis or Project Research

Bob provides instruction relating to room acoustics and noise control for architecture studios and ARCH 103, Introduction to Architecture; Architecture 205, Natural Forces; and Architectural Engineering 101, Introduction to Architectural Engineering.

During the past three years Bob has provided instruction to several School of Music graduate students who desired to learn more about room acoustics, noise control, and sound pressure level measurements relating to music rehearsal spaces, practice rooms, and potential hearing damage.

During the past fifteen years, Bob has guided approximately thirty-five University of Kansas and Kansas State University architecture and architectural engineering students into careers in professional acoustical consulting, professional sound system contracting, and acoustic education at the university level with most of these students engaged in professional acoustical consulting for firms located throughout the United States

Acoustical Society of America annual student design competitions are a major teaching aid. University of Kansas students have received at least one of the five awards in these professionally judged competitions for fourteen of the past sixteen years. Bob has been an organizer or co-organizer of the competitions for over twenty years as noted under Acoustical Society of America and Other Service.

## **CURRENT AND PAST PROFESSIONAL ACOUSTICAL CONSULTING ACTIVITIES**

While a principal of Coffeen Fricke & Associates, Bob provided acoustical consulting services (room acoustics, architectural noise control, mechanical and electrical system noise control, and sound reinforcement and reproduction system design) for approximately 3000 projects located throughout the United States and in Canada, Venezuela, Japan, Korea, Germany, Italy, Egypt, Jordan, and Saudi Arabia.

Bob continues to provide acoustical consulting services for selected projects. University of Kansas projects for which acoustical consulting service have been or are being provided include the west campus Pharmacy Building; the Measurement, Materials and Sustainable Environment Center reverberant rooms; Learned Engineering Expansion Phase 2; Swarthout Recital Hall remodeling; noise control associated with the replacement of air handling units in Murphy Hall; KU School of Music choral rehearsal hall; studios for Kansas Public Radio and KJHK Radio; the School of Architecture, Design and Planning Forum; Spooner Hall renovation to provide a multipurpose conference center; Marvin Hall Jury Room acoustical improvements; and Nunemaker Hall mechanical system noise control.

Other recent projects for which Bob has furnished acoustical consulting services include the Lawrence Arts Center; new theatre for Theatre Lawrence; Garden City Bank noise control, Lee's Summit MO; sound retarding door noise reduction measurements for DH Pace Door Services, Whiteman AFB MO; multipurpose auditoriums for United Missouri Bank, Kansas City MO, Pine Ridge Presbyterian Church, Kansas City MO; St. Michael the Archangel Church, Leawood KS; St. Michael and All Angels Church, Prairie Village KS; Grace Evangelistic Presbyterian Church, Lawrence KS; Cambridge Church, Leawood KS; St. Francis de Sales Church, Lebanon OH; and several other religious worship facilities.

### **UNIVERSITY and OTHER AWARDS**

Students' Teaching Award, School of Architecture and Urban Design...1998  
Bellows Scholar, School of Engineering...1999 and 2000  
University Center for Teaching Excellence, Teaching Award...2000  
Bradley Teaching Award, School of Architecture and Urban Design...2001  
National Systems Contractors Association Educator-of-the-Year...2006  
Bradley Student Recognition Award, School of Architecture and Urban Planning...2008  
National Systems Contractors Association Instructor-of-the-Year...2009  
National Systems Contractors Association Instructor-of-the-Year...2010  
Acoustical Society of America Rossing Prize for Education in Acoustics...2011  
Bose Education Excellence Award...2012  
Systems Contractor News Hall of Fame...2012

### **UNIVERSITY and COMMUNITY SERVICE**

Member, several committees for Master of Arts in Architecture and Master of Music in Music Education degree candidates

Member, School of Architecture, Design and Planning Undergraduate Studies Committee

As part of classes in acoustics, Bob's "acoustics studio" has guided students in the provision of acoustical consulting services for several University and other projects including Conference Room 4007 Learned Hall; Conference Room 306 Marvin Hall; Multipurpose Room 421 Art & Design; Marvin Hall Jury Room; Oliver Hall Cafeteria; Hashinger Hall Music Practice Room; Swarthout Recital Stage Improvements; acoustical improvements for Choral Rehearsal Room 328 Murphy Hall; Woodruff Auditorium HVAC system noise; Alderson Auditorium HVAC system noise and room acoustic modifications; Listening/Presentation Room for Telex/EV, Burnsville MN; Fellowship Halls for Ottawa KS and Warsaw MO churches; Lobby for Lawrence KS bank; Hillcrest Elementary School and Cordley Elementary School Gymnasiums in Lawrence KS; activity centers for two Lawrence KS churches; Hiawatha High School Gymnasium, Hiawatha KS; Topeka Doctors' office noise control; Public Library, Lawrence KS; Grace Community Church, Ottawa KS; Gymnasium of the Islamic School of Greater Kansas City; the George J. Perry Armory in St. Marys KS; and rehearsal rooms for the Thomas H Bowlus Fine Arts Center, Iola KS.

### **ACOUSTICAL SOCIETY OF AMERICA and RELATED SERVICE**

Member of the ASA Technical Committee on Architectural Acoustics, 1974 - 1989 and June 1996 to present

General chair for 2012 ASA fall national meeting in Kansas City, Missouri

Co-chair of ASA Committee on Regional Chapters, 2011 to present

For ASA Technical Committee on Architectural Acoustics, supervised preparation of booklet on classroom acoustics by senior level architectural engineering students at the University of Kansas...first printing September 2000 (total of 8,500 copies printed)

Co-chair of ASA TCAA subcommittee on Student Design Competitions...organized annual ASA student design competitions for over twenty years...competitions have involved acoustical design of music halls, opera houses, recital halls, outdoor music pavilions, music rehearsal halls, lecture halls, court houses, and other venues where room acoustics and noise control are important

Member of Advisory Committee...Newman Student Award Fund

Member of Advisory Board...ADA Foundation gGmbH, Berlin, Germany

**TECHNICAL PAPERS and PRESENTATIONS**...Partial listing of recent technical papers, presentations, etc.

Member of the faculty...Acoustical Society of America Concert Hall Research Group Summer Institute...Sarasota Springs, New York...August 2004; Aspen, Colorado...August 2006. Attended CHRGS Summer Institute as Distinguished Educator...Santa Fe, New Mexico...August 2010

Seminar on acoustical design and analysis program EASE for National Systems Contractors Association for the past 9 years including...Las Vegas, Nevada...March 2006 and Orlando, Florida...March 2007, and for NSCA/InfoComm...Las Vegas, Nevada...June 2008, Orlando, Florida...June 2009, and Las Vegas, Nevada...June 2010. Named Instructor of the Year by NSCA...September 2009 and 2010

Seminar on acoustical design and analysis program EASE for InfoComm...Las Vegas, Nevada...June 2012

Invited Paper..."Using computer modeling and auralization to provide classroom listening experiences"...148th Meeting of the Acoustical Society of America, San Diego, California, October 2004

Invited Paper..."Comparison of three methods for determining Speech Transmission Index (STI)"...148th Meeting of the Acoustical Society of America, San Diego, California, October 2004

Organizer and chair of session "Possibilities and Problems with Auralizations of Classroom Acoustics"...149th Meeting of the Acoustical Society of America, Vancouver, British Columbia, May 2005

Invited Paper..."Classroom auralizations using both speech and HVAC system intruding noise"...149th Meeting of the Acoustical Society of America...Vancouver, British Columbia, May 2005

Co-organizer and co-chair of ISO 3382 Acoustics and Electroacoustics Measurement Workshop...150th Meeting of the Acoustical Society of America...Minneapolis, Minnesota...November 2005

Chair of session "Rain Noise"...154th Meeting of the Acoustical Society of America...New Orleans, Louisiana, November 2007

Invited Paper..."Rain noise level measurements in a performing arts center" and "Comparison of interior noise levels produced by rain impinging on several commercial roof constructions"...154th Meeting of the Acoustical Society of America...New Orleans, Louisiana, November 2007

Contributed Paper..."Room sound absorption provided by under-bench sound absorbing material...156th Meeting of the Acoustical Society of America...Miami, Florida...November 2008

Invited Paper..."Comparison of auralized and measured sound in moderately reverberant spaces"...157th Meeting of the Acoustical Society of America...Portland, Oregon...May 2009

Invited Paper..."The University of Kansas architecture and architectural engineering programs offer focused coursework in architectural acoustics, electro-acoustics, and noise control"...158th Meeting of the Acoustical Society of America, San Antonio, Texas...October 2009

Invited Paper..."Teaching architectural acoustics to architecture, architectural engineering, and music students"...162nd Meeting of the Acoustical Society of America, San Diego, California...November 2011

Invited Paper..."Techniques for teaching building acoustics and noise control to university architecture students"...164th Meeting of the Acoustical Society of America, Kansas City, Missouri...October 2012

Invited Paper..."Using computer building modeling and auralization as teaching tools"...164th Meeting of the Acoustical Society of America, Kansas City, Missouri...October 2012

Invited Paper..."Two case histories relating to the transmission of noise from mechanical equipment rooms to adjacent noise sensitive spaces"...to be presented at the 166th Meeting of the Acoustical Society of America, San Francisco, California...December 2013

Instructor for Ahnert Feistel Media Group seminars on the acoustical analysis and measurement computer programs EASE and EASERA; Los Angeles, California...March 2007 and April 2008; University of Kansas...Lawrence, Kansas...October 2007, October 2008, and November 2011

Presentation to Electronic Contracting personnel primarily relating to the coordination of building acoustics and electro-acoustic sound reinforcement...Lincoln, Nebraska, October 2007

## **CURRENT AND RECENT RESEARCH and RELATED ACTIVITIES**

Investigation of interior noise produced by heavy rain on typical commercial roof constructions...Data from this research was presented at the 2006 Concert Hall Research Group meeting in Aspen, Colorado and at the November 2007 meeting of the Acoustical Society of America in New Orleans, Louisiana. Research will continue during 2012 and 2013 with rain noise measurements for constructions with interior suspended ceilings and with "green roofs"

Investigation of the area sound absorption provided by the installation of sound absorbing material beneath bench type seating such as religious worship facility pews, and investigation of sound absorption provided by vertically retracting velour banners to provide variable absorption for auditoriums and similar spaces

Investigation of the accuracy of computer auralization in predicting the sound of concert halls, recital halls, religious worship facilities, arenas, stadiums and other similar audience spaces; and including the performance of proposed sound reinforcement and reproduction systems

Beginning the preparation of book (probably self-published) titled "Architectural Acoustics and Architectural Noise Control – A Guide for Architects"

Participating in the preparation of a book on sound reinforcement systems with main authors Wolfgang Ahnert and Stefan Feistel, AFGM Berlin Germany.