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Acoustical Society of America

Melville, New York 11747



James E. West with George W. Bush
Photo by Ryan K. Morris

James West awarded National Medal of Technology

James E. West, a Johns Hopkins University engineering faculty member who co-invented the microphone used in most telephones and many other electronic devices worldwide, has been named a recipient of the United States highest honor for technological innovation—the 2006 National Medal of Technology. The medal was presented by President George W. Bush during a White House awards ceremony on July 27.

Established by an act of Congress in 1980 and first awarded in 1985, the Medal of Technology is given annually to individuals, teams, and companies for their outstanding contributions to the nation's economic, environmental and social well-being through the development and commercialization of technology products, processes and concepts; technological innovation; and development of the nation's technological manpower.

At Bell Labs in 1962, West and his colleague Gerhard Sessler patented the electret microphone, in which thin sheets of polymer film, metal-coated on one side, are given a permanent charge to serve as the membrane and bias of a condenser microphone that helps convert sound to electrical signals with high fidelity. Almost 90 percent of the more than two billion microphones produced today are based on the principles developed by West and Sessler. West spent more than four decades with Bell Labs, building upon this research and obtaining more than 200 U.S. and foreign patents. He also authored or contributed to more than 140 technical papers. In 2002 West joined the Johns Hopkins University faculty as a research professor in the Whiting School of Engineering's Department of Electrical and Computer Engineering.

His achievements have led to numerous professional honors. In 1995, West was awarded the Silver Medal in Engineering Acoustics by the Acoustical Society of America (ASA). He was elected to the National Academy of Engineering in 1998 and a year later was inducted into the

National Inventors Hall of Fame. He was awarded the Golden Torch Award of the National Society of Black Engineers in 1998 and received ASA's highest honor, the Gold Medal, in 2006 "for development of polymer electret transducers, and for leadership in acoustics and the Society." West is a fellow of the Acoustical Society of America and the Institute of Electrical and Electronics Engineers. In 1997, the New Jersey Institute of Technology awarded West an honorary doctor of science degree and in 2006 he was awarded an honorary Doctor of Engineering from Michigan State University.

Jim West has served the ASA as a member of numerous committees, as Chair of the Technical Committee on Engineering Acoustics (1974-77), as a Member of the Executive Council (1989-92), and as President (1998-99).

Jan Achenbach awarded the National Medal of Science

Jan D. Achenbach, Walter P. Murphy Professor and Distinguished McCormick School Professor of the Departments of Mechanical Engineering, Civil and Environmental Engineering and Engineering Sciences and Applied Mathematics, has been awarded the 2005 National Medal of Science—the nation's highest award for lifetime achievement in fields of scientific research. Achenbach was honored for his seminal contributions to engineering research and education in the area of wave propagation in solids and for pioneering the field of quantitative non-destructive evaluation. The medal was presented by President George W. Bush during a White House awards ceremony on July 27.

The National Medal of Science which was established by the Congress in 1959 honors individuals for pioneering scientific research in a range of fields, including physical, biological, mathematical, social, behavioral and engineering sciences, that enhances our understanding of the world and



Jan D. Achenbach with George W. Bush
Photo by Ryan K. Morris

leads to innovations and technologies that give the United States its global economic edge.

Achenbach is a preeminent researcher in solid mechanics and quantitative non-destructive evaluation. He has made major contributions in the field of propagation of mechanical disturbances in solids. He has achieved important results in quantitative non-destructive evaluation of materials, damage mechanisms in composites, and vibrations of complex structures. He has developed methods for flaw detection and characterization by ultrasonic scattering methods. Achenbach's work has been both analytical and experimental. He also has achieved valuable results on earthquake mechanisms, on the mechanical behavior of composite materials under dynamic loading conditions, and on the vibrations of solid propellant rockets.

Achenbach is founder of Northwestern's Center for Quality Engineering and Failure Prevention, a state-of-art laboratory for quality control in structural mechanics, with profound impact on the aircraft industry, particularly the monitoring of aging aircraft. Achenbach was awarded the 2003 National Medal of Technology, the nation's highest honor for technological innovation. He was elected a member of the National Academy of Engineering in 1982, a member of the National Academy of Sciences in 1992, and a fellow of the American Academy of Arts and Sciences in 1994. In 1999 he was elected a Corresponding Member of the Royal Dutch Academy of Sciences. He is a Fellow of the Acoustical Society of America, an honorary member and fellow of the American Society of Mechanical Engineers (ASME) and a fellow of the Society of Engineering Science (SES), and the American Association for the Advancement of Science. His awards include the Timoshenko Medal from the American Society of Mechanical Engineers and the William Prager Medal.



Patricia Kuhl receives Alumni Award

Patricia Kuhl receives University of Minneapolis alumni award

Patricia Kuhl, University of Minnesota distinguished alumna, has been named an Outstanding Alumni of Achievement (OAA). The award is the highest given by the University to alumni and recognizes exceptional achievement in a professional field or service. Dr. Kuhl is an alumna of the Department of Speech-Language-Hearing Sciences and received the award at a keynote presentation at the University in May.

Kuhl currently is Co-Director of the University of

Washington Institute for Learning and Brain Sciences. Her research focuses on language acquisition and language processing by the brain. Her work also shows that language processing involves many senses, including vision, both in early infancy and in adulthood.

"Dr. Patricia Kuhl's work is at the leading edge of research on human development, and her scholarship fundamentally has changed our knowledge about infants' emerging language across a breadth of disciplines. Whenever the question is raised in research and public policy arenas about how humans communicate, one of the most prominent and internationally respected scientists approached for possible answers is Pat Kuhl." said Jennifer Windsor, professor and chair of the Department of Speech-Language-Hearing Sciences.

Kuhl was one of six scientists invited to the White House in 1997 by President and Mrs. Clinton to speak at their Early Learning and the Brain Conference. In 2001, she was invited back to the White House to speak at President and Mrs. Bush's White House Summit on Early Cognitive Development.

The OAA was created by the Board of Regents in 1947. It honors alumni from all university colleges who have excelled in their chosen field and who have made extraordinary contributions to their community, whether local, national, or global. The University of Minnesota presents 20 Outstanding Achievement Awards each year. The Twin Cities campus alone has approximately 350,000 alumni.

J. Brian Fowlkes receives research award

J. Brian Fowlkes, Associate Professor of Radiology and Associate Professor of Biomedical Engineering at the University of Michigan, has been awarded the 2006 Achievement in Basic Science Research Award from the University of Michigan Medical School. The award recognizes a faculty member or group of faculty members who exhibit outstanding basic science research.

Dr. Fowlkes and his colleagues in the ultrasound laboratory have developed a method of acoustic droplet vaporization to produce gas bubbles within an artery, creating a selectively localized ultrasound contrast media that can be used in a variety of applications such as volume flow estimations, tissue perfusion and shape control of acoustic fields within the body. Dr. Fowlkes' other areas of research include drug enhancement and delivery of ultrasonic therapy, tissue elasticity imaging, imaging and quantification of vascular flow and perfusion, safety of medical ultrasound, image processing, instrumentation, 3-D imaging and quantitative tissue characterization, and quantitative testing of new applications.

Dr. Fowlkes received his PhD in Physics in 1988 from the University of Mississippi, working at the National Center for Physical Acoustics. He began at the University of Michigan as a post doctoral fellow in 1988 and joined the faculty in 1991. He has authored or coauthored over 50 peer-reviewed publications and has presented numerous contributed and invited lectures. He is a member of the Acoustical Society of America, American Association of Physicists in Medicine, American Institute of Ultrasound in Medicine, and International Institute of Electrical and Electronic Engineers. He has twice been awarded the Presidential Recognition



J. Brian Fowlkes

Award for outstanding contributions and service to the expanding future of ultrasound in medicine by the American Institute of Ultrasound in Medicine.

Bill Elliot joins Cavanaugh Tocci Associates, Inc.

Cavanaugh Tocci Associates has announced that Bill Elliot has joined the firm as a Senior Consultant. Bill has Bachelors degrees in Physics and Architectural Design from the Massachusetts Institute of Technology, and a Masters degree in Architectural Acoustics from Rensselaer Polytechnic Institute.

Prior to joining Cavanaugh Tocci, Bill worked for RPG Diffusor Systems, manufacturers of specialty acoustic finish products. Bill gained experience in their laboratories developing and testing new acoustic products, advising architects on product applications, and acting as project manager for custom installations. At Cavanaugh Tocci Associates Inc., Bill's work will include projects in architectural acoustics consulting, sound and vibration isolation, noise control in HVAC systems, and acoustic finish treatments. Bill is proficient in computer modeling of interior room acoustics, and he will be using these skills to help design theaters, musical performance and rehearsal facilities, and worship spaces.

Bill has won a number of awards



Bill Elliot

and scholarships, including the Robert Bradford Newman Student Award in Architectural Acoustics.

Sid Bacon fills dean's spot for Natural Sciences

Sid P. Bacon, an ASA Fellow and former Associate Editor of the *Journal of the Acoustical Society of America*, is the new Dean of the Division of Natural Sciences in Arizona State University's (ASU) College of Liberal Arts and Sciences. Professor Bacon is an auditory psychophysicist at the Tempe, Arizona-based research university.

His appointment as dean of the college's largest division is the latest leadership role held by Bacon since his arrival at ASU in 1988 as an associate professor in the Department of Speech and Hearing Science. He served as director of the interdisciplinary doctoral program in the department, and later as acting chair and then chair. This past December, Bacon was tapped to serve as interim dean of the Division of Natural Sciences, a position recently made permanent.

As department chair, Bacon headed a unit of 12 tenured/tenure track faculty who oversaw \$3.4 million in research expenditures. He also coordinated and taught an undergraduate research seminar in the Department of Speech and Hearing Science—a role in which he will continue to serve. This program identifies and nurtures talented juniors



Sid P. Bacon

Photo courtesy of Arizona State Univ.

Photo by Tom Story.

with the goal of maintaining a pipeline of researchers and teaching faculty in the field, Bacon says.

In his new role as dean of the Division of Natural Sciences, Bacon will manage nine academic units, including the School of Earth and Space Exploration, the School of Life Sciences, the School of Materials, and the departments of chemistry and biochemistry, kinesiology, mathematics and statistics, physics, psychology, and speech and hearing science. There are 339 tenured/tenure track faculty in the division and his goal is to support an environment of rewarding excellence for scholarship. Additionally, Bacon wants to help the division be a leader in the state for K-12 education in science and math.

Bacon will continue his research and work with undergraduate students, graduate students and postdoctoral fellows in the Psychoacoustics Laboratory, concentrating primarily on behavioral aspects of hearing. His research, which has been funded continuously by the National Institutes of Health for more than 20 years, has implications for the way in which humans perceive sounds such as speech and music.

Bacon, who grew up in Salina, Kansas, has a doctorate in experimental psychology from the University of Minnesota, and a Master's in audiology, and a Bachelor's in speech pathology and audiology from the University of Kansas.



Dawn R. Schuette

Dawn R. Schuette joins Threshold Acoustics

Dawn R. Schuette, AIA, has joined Scott D. Pfeiffer and Carl P. Giegold, AIA, as a Principal of Threshold Acoustics. Schuette's most recent project, Cobb Energy Performing Arts Centre in suburban Atlanta, opened to acclaim earlier this month. Her experience prior to joining Threshold also includes the Holland Performing Arts Center in Omaha, Benedict Music Tent for the Aspen Music Festival and School, and the Schwartz Center for Performing Arts at Emory University in addition to many other educational facilities, worship spaces, studios, and touring venues. She is a member of the Acoustical Society of America.

Threshold Acoustics LLC was founded in Chicago in February 2006 and comprises principals and staff who have worked together in acoustics over the past 14 years.

ASA awards at Intel International Science and Engineering Fair

The Acoustical Society of America (ASA) presented awards to four high school students during the annual International Science and Engineering Fair (ISEF), held this year in Albuquerque, New Mexico. The fair has been held since 1950 as a means of encouraging pre-college students to conduct scientific research. Student finalists who compete at the ISEF have earned the right to compete by winning top prize at a local, regional, state, or

national science fair. The science fair brings together nearly 1500 students from 40 nations to compete for scholarships, tuitions grants, internships, scientific field trips, and a \$50,000 college scholarship.

The ASA was proud to present a first place award of \$1000 and three Honorable Mention certificates. Each awardee also received a free one-year

subscription to the *Journal of the Acoustical Society of America*. Admittedly, the high caliber of students and quality of projects made picking a winner difficult.

First prize was awarded to 17 year old Michael Tyler Wham from Woodlands, Texas for his project entitled, "Calls in the Wild: Vocalizations of the Red-cockaded Woodpecker." It



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The Acoustical Society of America (ASA) presented awards to four high school students

was an excellent project in both presentation display and student creativity. His work focused on creating a spectral identifier to distinguish between vocalizations of the Red-cockaded woodpecker that are correlated with behavior and environmental stimuli.

The first Honorable Mention was presented to 15 year old David C. Liu from San Jose, California for his project entitled, "Acoustic Music Similarity Analysis," which described a method for comparing large numbers of songs based on spectral information.

A second Honorable Mention award went to 15 year old Douglass Charles Niemann from Louisville, Kentucky for his project entitled, "Manipulating the Diffraction of Traffic Noise" that investigated multiple-edge barriers in the control of traffic noise.

The final prize went to a team of 17 year old students, Aman Sarup from Ossining, New York and Palak Patel from West Sayville, New York for their project entitled, "A

Novel Method to Measure the Speed of Sound in the Cornea," which used ultrasonic techniques to gauge a more precise measurement of corneal thickness in LASIK procedures.

Our judging team included Dr. Amy T. Neel of the University of New Mexico and Dr. Gregory Kaduchak of Acoustic Cytometry Systems who said: "We found attending the fair to be an invigorating experience. The future of this planet is surely in good hands. We highly recommend this judging experience to anyone who has the opportunity." *Gregory Kaduchak*

Founder and Chairman of Bose Corp. honored by Consumer Electronics Association

Amar Bose, founder of Bose Corporation, has been named to the Consumer Electronics Hall of Fame. The Consumer Electronics Association (CEA®) created the CE Hall of Fame in 2000 to recognize the pioneers of the CE industry and has honored more than 110 industry leaders including inventors, engineers, business executives, retailers and journalists.

Dr. Bose, along with 10 other honorees was inducted at the annual CE Hall of Fame awards dinner on October 14-17, 2007 in San Diego, California.

Bose earned a Ph.D. from the Massachusetts Institute of Technology (MIT). As assistant professor of electrical engineering at MIT, he embarked on research in acoustics that led him to invent a stereo loudspeaker that would reproduce, in a domestic setting, the dominantly reflected sound field that characterizes the listening space of the audience in a concert hall.

Bose Corporation was founded in 1964 and is a long-time Sustaining Member of the Acoustical Society of America. Dr. Bose was the speaker at the Fellows Luncheon at the ASA's Spring 2006 meeting in Providence, Rhode Island.

USA Meetings Calendar

2007

27 Nov-2 Dec 154th Meeting of the Acoustical Society of America, New Orleans, Louisiana (note Tuesday through Saturday) [Acoustical Society of America, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502; Tel.: 516-576-2360; Fax: 516-576-2377; Email: asa@aip.org; WWW: <http://asa.aip.org>].

2008

29 June-4 July Joint Meeting of the Acoustical Society of America, European Acoustics Association, and the Acoustical Society of France, Paris, France) [Acoustical Society of America, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502; Tel.: 516-576-2360; Fax: 516-576-2377; Email: asa@aip.org; WWW: <http://asa.aip.org>].

28 Jul-1 Aug 9th International Congress on Noise as a Public Health Problem (Quintennial meeting of ICBEN, the International

Commission on Biological Effects of Noise). Foxwoods Resort, Mashantucket, CT [Jerry V. Tobias, ICBEN 9, Post Office Box 1609, Groton CT 06340-1609, Tel. 860-572-0680; Web: www.icben.org. Email: icben2008@sbcglobal.net.

10-14 Nov

156th Meeting of the Acoustical Society of America, Miami, Florida [Acoustical Society of America, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502; Tel.: 516-576-2360; Fax: 516-576-2377; Email: asa@aip.org; WWW: <http://asa.aip.org>].

2009

18-22 May

157th Meeting of the Acoustical Society of America, Portland, Oregon [Acoustical Society of America, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502; Tel.: 516-576-2360; Fax: 516-576-2377; Email: asa@aip.org; WWW: <http://asa.aip.org>].