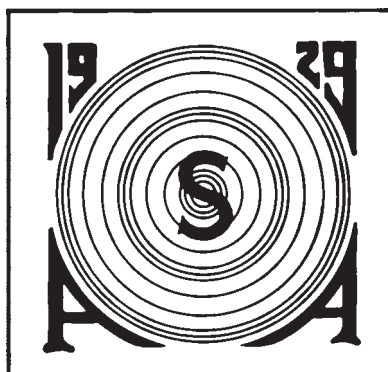


ACOUSTICAL SOCIETY OF AMERICA DISTINGUISHED SERVICE CITATION



Charles E. Schmid

2008

The Distinguished Service Citation is awarded to a present or former member of the Society in recognition of outstanding service to the Society.

PREVIOUS RECIPIENTS

Laurence Batchelder	1972	Frederick E. White	1987
Robert W. Young	1973	Daniel W. Martin	1989
Betty H. Goodfriend	1973	Murray Strasberg	1990
Gerald J. Franz	1974	William J. Cavanaugh	1994
Robert T. Beyer	1978	John C. Burgess	1996
Henning E. von Gierke	1978	Alice H. Suter	1997
R. Bruce Lindsay	1981	Elaine Moran	1999
William S. Cramer	1984	John V. Bouyoucos	2000
Stanley L. Ehrlich	1986	F. Avril Brenig	2000
Samuel F. Lybarger	1986	Thomas D. Rossing	2006



CITATION FOR CHARLES E. SCHMID

. . . for contributions as Executive Director of the Acoustical Society of America

PARIS, FRANCE • 2 JULY 2008

Charles Ernest Schmid grew up in East Williston, New York, about a 15-minute drive from the ASA's current headquarters in Melville. His father was an electrical engineer who ran the Shield Electric Company, which was founded by Charles's grandfather in 1909. They developed a process called thermo-welding for third rails for the Long Island Railroad and the New York City subway system. Charles's mother was a social worker who volunteered for the Red Cross. Long before the term "family values" became a cliché, Charles's parents were the genuine article, and they imparted those values to their children. His dad was a hard worker but tenderhearted and sometimes took in friends or relatives who were down on their luck. His mother was the practical one—very smart with a quick wit. Charles had one sibling, a younger sister Susan. There was much laughter in the Schmid household, and they had close and friendly relations with their neighbors and relatives. Summers were spent at their cottage on Fire Island, NY. There, Charles and Susan were free to roam—swimming, fishing, and clamming with their cousins and friends. It was an idyllic childhood for Charles, and that warmth and sense of optimism has carried over to his adult life.

At school Charles showed an early interest in mathematics, science, and history. Charles's great grandfather had emigrated from Ulm, Germany, "the city of artists and engineers," and that tradition apparently trickled down to Charles, who received a bachelor's degree in electrical engineering from Cornell University in 1963. Rowing was a big part of his undergraduate years. He still keeps in touch with fellow oarsmen, and can sometimes be found during lunch break taking a row in Eagle Harbor. Charles was also known on the Cornell campus for his 1929 Model-A Ford. It had a manifold heater and no defroster (you put your hand on the window to melt the ice) and a tendency to break down. It was truly an adventure to head off from Cornell in upstate New York to Long Island, especially during the winter.

After graduation from Cornell Charles moved to the seaside village of Stonington, Connecticut and went to work for Electric Boat designing sonar systems, where he participated in many submarine sea trials in the Atlantic and the Pacific. He also began working on his masters degree at the University of Connecticut and took courses in creative writing on the side. It was during this period that he met his wife Linda. Linda says that not only was he tall and nice looking, but by now he had ditched the old Model A and drove a red sports car!

Captivated by the natural beauty of the Pacific Northwest while on a sea trial there, Charles moved to Seattle in 1966 to work at Honeywell Marine Systems. He immediately joined the Seattle Mountaineers and learned glacier and rock climbing techniques, eventually leading seven climbs to the summit of Mt. Rainier, over 14,000 ft. This was one of the most productive times of Charles's life, working at Honeywell, helping to raise two children (Andrew and Jenny), and pursuing a PhD at the University of Washington. His dissertation was on computer recognition of musical instruments. When Charles finds any free time at an ASA meeting, he can often be found in a Musical Acoustics session.

Apparently the childhood memories of Fire Island remained with Charles because he and Linda found a place on Bainbridge Island, where they bought an old house that introduced Charles to the gentle arts of plumbing, wiring, and drywall hanging. On Bainbridge Island, Charles began community activities; he helped spearhead incorporation for Bainbridge Island and organized their new all-island government. (If you want to start a spirited conversation, just ask Charles what is happening in local politics on Bainbridge Island.)

In 1985, Charles took his interest in politics to Washington, DC as one of the first ASA Congressional Science and Engineering Fellows. The year in Washington, DC was a seminal one for Charles as he learned a new set of skills in his work to increase communications between scientists and Congress. A few years later, when the ASA announced an opening for its first Executive Director, Charles was an enthusiastic applicant. He assumed the position in 1990 and has held it ever since. Fortunately, Charles brought to the job of Executive Director qualities and skills he learned from his parents and

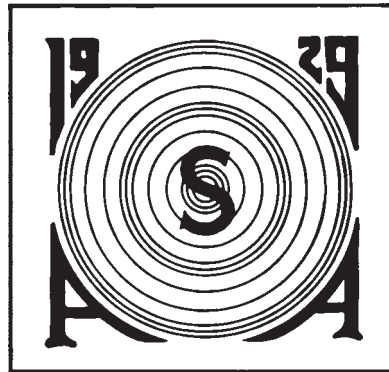
developed over a lifetime: love of family, leadership, imagination, problem solving, abundant energy, persistence and patience, a good memory and sense of history, and a tolerance for diverse viewpoints. The ASA Executive Director must ensure that the Society not only survives, but flourishes. Directing an organization that depends so much on an ever-changing cadre of volunteers requires diplomacy of a high order. Charles has thrived in this environment as few others could, and the Society has thrived as well.

Charles has made many contributions to our Society, and to acoustics. He has been a member of the Governing Board of the American Institute of Physics (AIP) since 1990, and was elected to its Executive Committee for five separate terms. Anyone who has attended a meeting of the AIP Board will quickly recognize the high regard with which he is held by his AIP peers. He is also a member of the International Commission for Acoustics and regularly attends meetings of other national and regional acoustical societies. Charles played an indispensable role in leading the Society to reach out beyond its geographical borders. In 1998, he helped organize a joint meeting of the ASA and the International Congress on Acoustics, followed by a meeting with the European Acoustics Association in Berlin in 1999, a joint meeting with the Mexican Institute of Acoustics and Federation of Iberoamerican Acoustics held in Cancun, Mexico in 2002, and in 1996 and 2006 the third and fourth joint meetings with the Acoustical Society of Japan in Hawaii. It is appropriate that Charles should be recognized for his service to acoustics worldwide at another international conference, Acoustics'08 in Paris.

LAWRENCE A. CRUM
WILLIAM M. HARTMANN
PATRICIA K. KUHL

ACOUSTICAL SOCIETY OF AMERICA

R. BRUCE LINDSAY AWARD



Tyrone M. Porter

2008

The R. Bruce Lindsay Award (formerly the Biennial Award) is presented in the Spring to a member of the Society who is under 35 years of age on 1 January of the year of the Award and who, during a period of two or more years immediately preceding the award, has been active in the affairs of the Society and has contributed substantially, through published papers, to the advancement of theoretical or applied acoustics, or both. The award was presented biennially until 1986. It is now an annual award.

PREVIOUS RECIPIENTS

Richard H. Bolt	1942	Ilene J. Busch-Vishniac	1987
Leo L. Beranek	1944	Gilles A. Daigle	1988
Vincent Salmon	1946	Mark F. Hamilton	1989
Isadore Rudnick	1948	Thomas J. Hofler	1990
J. C. R. Licklider	1950	Yves H. Berthelot	1991
Osman K. Mawardi	1952	Joseph M. Cuschieri	1991
Uno Ingard	1954	Anthony A. Atchley	1992
Ernest Yeager	1956	Michael D. Collins	1993
Ira J. Hirsh	1956	Robert P. Carlyon	1994
Bruce P. Bogert	1958	Beverly A. Wright	1995
Ira Dyer	1960	Victor W. Sparrow	1996
Alan Powell	1962	D. Keith Wilson	1997
Tony F. W. Embleton	1964	Robert L. Clark	1998
David M. Green	1966	Paul E. Barbone	1999
Emmanuel P. Papadakis	1968	Robin O. Cleveland	2000
Logan E. Hargrove	1970	Andrew J. Oxenham	2001
Robert D. Finch	1972	James J. Finneran	2002
Lawrence R. Rabiner	1974	Thomas J. Royston	2002
Robert E. Apfel	1976	Dani Byrd	2003
Henry E. Bass	1978	Michael R. Bailey	2004
Peter H. Rogers	1980	Lily M. Wang	2005
Ralph N. Baer	1982	Purnima Ratilal	2006
Peter N. Mikhalevsky	1984	Dorian S. Houser	2007
William E. Cooper	1986		



CITATION FOR TYRONE M. PORTER

. . . for contributions to ultrasound-guided drug delivery

PARIS, FRANCE • 2 JULY 2008

Tyrone Michael Porter was born in Detroit, Michigan on July 21, 1973. His parents, Dr. Elijah and Laverne Porter were teachers in the Detroit public school system. Elijah taught high school math early in his career and later served as Principal of Henry Ford High School and Laverne taught third through fifth grade at Vetal Elementary until their retirement a few years ago. Elijah and Laverne were strict disciplinarians and kept a close watch on Tyrone and his friends when they were teenagers. What Tyrone initially interpreted as an infringement of freedom was soon seen as a concern for his welfare, and he attributes much of his success in life to the important values he learned from his parents. Tyrone is a middle child with an older brother, Elijah Porter, II, and a younger sister, Dr. Dawne Jones. This birth order served as the quintessential training for Tyrone as a lively listener, a tolerant team-builder and a patient peacemaker. He continues to enjoy his role as proud uncle of five nephews and nieces. Tyrone is newly married to Dr. Monica Hall-Porter, and they reside in Roxbury, MA. Tyrone attended Renaissance High School in Detroit and graduated in 1991. While attending high school, Tyrone participated in the Detroit Area Pre-College Engineering Program, which served as a platform for pursuing a degree in engineering.

He left Michigan to attend Prairie View A&M University, a historically Black university in southeast Texas. While earning a Bachelor of Science degree in Electrical Engineering (Magna Cum Laude), Tyrone participated in several organizations, including the National Society of Black Engineers (NSBE) and Alpha Phi Alpha Fraternity. He was later named 2002 Graduate Student of the Year by NSBE, and now directs their Bioengineering Special Interest Group. At the NSBE 2007 national convention in Columbus, Ohio, he organized a special session entitled, Sound Therapy: Innovation in Biomedical Acoustics. As an undergraduate, Tyrone also co-founded Peers Advising, Counseling, and Teaching (PACT) to motivate high school students to strive for academic excellence and attend college. In 1996 he was featured in *USA Today* as one of the nation's top undergraduate engineering students, and was awarded a position on the Collegiate All Academic Team.

Tyrone was encouraged to pursue a doctoral degree in engineering and a career in higher education. He attended graduate school at the University of Washington (UW), where he was awarded the Doctor of Philosophy in Bioengineering in 2003. Tyrone came cheap as a graduate student, arriving at UW with a National Science Foundation Fellowship, and when that ran out, a fellowship sponsored by the United Negro College Fund (UNCF) and Merck. Tyrone was so well known at the UW that the three recommendation letters for the UNCF/Merck award came from his thesis advisor, and the Provost and the President of the University of Washington. As a graduate student, Tyrone co-founded the Minority Think Tank, a social-activist group created to discuss and develop solutions to common problems among underrepresented groups. During his graduate days, Tyrone was always organizing things from trips to Whistler for skiing to faculty-student softball games. As an outspoken proponent of social justice, he soon gained the attention of local politicians, and was regularly on the evening news and in the local paper with an articulate defense of affirmative action or equal opportunity.

For his dissertation, Tyrone helped to develop a new class of "smart" polymeric carriers that could destabilize biological membranes to enhance DNA or protein drug delivery. Tyrone worked on the novel idea that the synergistic effects of ultrasound and these polymeric carriers might be used to enhance their biofunctionality by triggering membrane destabilization. In this way, drug delivery might be stimulated with an on/off type of switch by application of an acoustic stimulus. This project embodied the spirit of interdisciplinary study and collaborative research that is the cornerstone of biomedical engineering. To be successful, he had to learn the fundamental concepts of acoustics, polymer chemistry, biochemistry and biology. Tyrone was so well known as a graduate student at the University of Washington that he was asked to serve on the Search Committee for a new President...a committee that included the founder of Costco Wholesale Corporation, the CEO of Recreational Equipment, Inc. (REI), and the CEO of Delta

Airlines. When he defended his dissertation, a lecture theater for over 200 people was reserved and it was nearly filled to capacity, including three Deans and a Vice Provost in attendance.

Tyrone was awarded the ASA's Frederick V. Hunt Postdoctoral Research Fellowship in Acoustics in 2003-04, which he chose to undertake at the University of Cincinnati. He worked with scientists in biomedical engineering, cardiology, biochemistry, and immunology to characterize the acoustic properties of echogenic liposomes, submicron-sized phospholipid vesicles that contain both gas and fluid. With antibody conjugation and drug incorporation, these liposomes can be used as novel targeted diagnostic and therapeutic ultrasound contrast agents. In addition to his scientific expertise, his sports acumen was legendary, and often led to rather heated and highly opinionated discussions on the merits of the Detroit Pistons versus anyone else. A detailed plan for the rehabilitation of the Cincinnati Bengals as a professional football team also resulted from these talks with his fellow researchers, as did some suggestions regarding recruitment ideas for the Reds.

At Boston University (BU), where he serves as a member of both the Department of Aerospace and Mechanical Engineering and the Department of Biomedical Engineering, Tyrone is crafting a world-class research program combining basic principles in chemistry, acoustics, and thermodynamics to develop novel drug delivery strategies for cancer therapy. He maintains research laboratories in both Departments and is forging true interdisciplinary collaborations involving team members with diverse interests and expertise. His research is currently focused on the development of targeted ultrasound contrast agents for image enhancement (molecular imaging), perfusion imaging, and image-guided drug delivery. Ultrasound-enhanced transport of drugs and genes across cell membranes and ultrasound-enhanced drug activity play an important role in this research.

At BU, Tyrone has been tasked with teaching the introductory dynamics course, which is a key college-wide curricular requirement populated by sizeable classes and students with diverse backgrounds. In this significant effort, Tyrone has acquitted himself extremely well, garnishing some of the finest teaching evaluations ever bestowed upon a freshman professor in the AME Department. Tyrone is destined to be a pedagogical star in a department populated with some of the best teachers in the BU College of Engineering. He is committed to the highest quality of education of students. His impeccable integrity and an infectious enthusiasm entice students to flock to him. Tyrone has the heart and heritage of an educator, and he will have a huge impact on younger people.

Tyrone has also been very active in the affairs of the ASA, having served on the Student Council, as a member of the organizing committee for the joint ASA/ICA meeting in Seattle in 1998, as one of the nine special presenters at ASA's 75th anniversary celebration, and as an organizer of several special sessions for the Technical Committee on Biomedical Ultrasound/Bioresponse to Vibration, of which he is also a member.

Tyrone Porter's parents, siblings, aunts and uncles, and a host of friends and colleagues are very proud of Tyrone's accomplishments and look forward to the exciting career that lies before him.

CHRISTY K. HOLLAND
RONALD A. ROY
LAWRENCE A. CRUM

ACOUSTICAL SOCIETY OF AMERICA
Helmholtz-Rayleigh Interdisciplinary
Silver Medal in
Signal Processing in Acoustics
and
Underwater Acoustics



James V. Candy
2008

The Silver Medal is presented to individuals, without age limitation, for contributions to the advancement of science, engineering, or human welfare through the application of acoustic principles, or through research accomplishment in acoustics.



CITATION FOR JAMES V. CANDY

. . . for contributions to signal processing and underwater acoustics

PARIS, FRANCE • 2 JULY 2008

We have all heard the saying “Them that can, do; them that can’t, teach.” We also know that one exception disproves the theory. In the case of Jim Candy, we have that exception. He is a born teacher with a highly creative mind. When one first meets him, he comes across as a rather unassuming person. But once he becomes interested in a problem, he dives into it with a tenacious passion until he solves it. The teacher in him comes through by his ability to use simple analogies drawn from his wealth of knowledge and ideas. His intuitive creativity is displayed in clever innovative solutions to complex problems.

Many of his creative solutions are based on his background in control theory and recursive estimation theory. When he joined the staff of the Lawrence Livermore National Laboratory, Dr. Candy quickly found himself dealing with problems in electromagnetics, lasers, nuclear physics, internal waves, nuclear fusion, ultrasonics, array processing and inverse problems in general. It was not long before he gained the reputation as the “go to” guy when there was a need for a new approach in modeling, classification, estimation and detection, regardless of the subject. And anyone who deals with him on a collaborative basis walks away all the richer for it.

James Vincent Candy was born in Astoria, New York, on January 21, 1944. He received a B.S. in Electrical Engineering from the University of Cincinnati in 1966, an M.S.E. in Electrical Engineering from the University of Florida in 1972, and a Ph.D. in Electrical Engineering in 1976, also from the University of Florida. During the period, from 1967 to 1971, he served as a Captain in the United States Air Force and from 1966 to 1967, he worked as an Engineer for the General Electric Company. In 1976, Dr. Candy began his employment with the University of California, Lawrence Livermore National Laboratory (LLNL) as a scientist for the Engineering Directorate. At present, he is Chief Scientist for the Engineering Directorate and an Adjunct Professor at the University of California, Santa Barbara.

He began working in the field of oceanic signal processing during a short-term assignment at the NATO SACLANT ASW Research Center in 1987. Since that time, he has developed the “Model-Based” approach to oceanic signal processing. This has produced a wealth of applications in underwater acoustic signal processing to localization, tracking, signal enhancement, sound-speed inversion, noise cancellation, sequential detection and internal wave signal processing. His work led to the Bayesian solution for dispersive wave propagation, most notably as applied to internal waves in imaging and detection applications.

This model-based approach to signal processing evolved from Jim’s intimate knowledge of Bayesian statistics and the Kalman filter. This type of processor has been used in the area of optimum control for many years, but it was not until he pointed out that in principle, there is really no limit to the sophistication of the physical models one can use in these processors, that it was recognized that they had great value in areas outside of control theory. This insight has laid the framework for a general scheme for including a priori information, in the form of physical models, into basically any processing scheme. This provides a self-consistent Bayesian structure, that avoids many of the difficulties associated with the use of physical models, including the so-called “mismatch problem,” that arises when the physical parameters are not well known. Dr. Candy has closely followed, applied and contributed to advances made in recent years in this field, including the Unscented Kalman Filter and the particle filter, which avoid some of the limitations of the original Kalman filter, such as its inability to handle the cases of nonlinearity and non-Gaussian statistics.

Jim is a former Director of the LLNL Center for Advanced Signal and Image Sciences. He has been an Adjunct Professor at San Francisco State University, University of Santa Clara, and the University of California, Berkeley Extension, teaching graduate courses in signal and image processing. He is a Fellow of the Acoustical Society of America (ASA), the Institute of Electrical and Electronics Engineers (IEEE), and was recently elected as a Life Member (Fellow) of Clare Hall College at the University of Cambridge in the UK.

He received the IEEE Distinguished Technical Achievement Award in 2002 for contributions of signal processing to oceanic engineering. Along with his many other publications, he has produced three texts: *Signal Processing: The Model-Based Approach*, *Signal Processing: The Modern Approach*, and *Model-Based Signal Processing and Bayesian Signal Processing: Classical, Modern and Particle Filtering Methods* (in press). He has conducted many short courses and tutorials on applied signal processing at meetings of the Acoustical Society of America and the Oceanic Engineering Society. He has also presented short courses in Applied Model-Based Signal Processing for the SPIE Optical Society. He is currently the Chair of the IEEE Technical Committee on Sonar Signal and Image Processing and was the Chair of the ASA Technical Committee on Signal Processing in Acoustics as well as an Associate Editor for Signal Processing for *JASA Express Letters* (JASA EL).

In addition to his technical accomplishments, Dr. Candy has been a mentor to many junior colleagues. His enthusiasm for signal processing in the ASA was contagious as he worked to bring the Signal Processing Committee into existence starting from an interdisciplinary technical group. He was its first Chair. He has also persuaded colleagues to become active members of the ASA and almost all of the active Society members from the Lawrence Livermore National Laboratory began their involvement through Jim's encouragement. His commitment and enthusiasm for acoustical signal processing is evidenced by the visibility of our Society at the Lawrence Livermore National Laboratory.

EDMUND J. SULLIVAN
WILLIAM M. CAREY

GOLD MEDAL of the Acoustical Society of America



Patricia K. Kuhl

2008

The Gold Medal is presented in the spring to a member of the Society, without age limitation, for contributions to acoustics. The first Gold Medal was presented in 1954 on the occasion of the Society's Twenty-Fifth Anniversary Celebration and biennially until 1981. It is now an annual award.

PREVIOUS RECIPIENTS

Wallace Waterfall	1954	Richard K. Cook	1988
Floyd A. Firestone	1955	Lothar W. Cremer	1989
Harvey Fletcher	1957	Eugen J. Skudrzyk	1990
Edward C. Wentz	1959	Manfred R. Schroeder	1991
Georg von Békésy	1961	Ira J. Hirsh	1992
R. Bruce Lindsay	1963	David T. Blackstock	1993
Hallowell Davis	1965	David M. Green	1994
Vern O. Knudsen	1967	Kenneth N. Stevens	1995
Frederick V. Hunt	1969	Ira Dyer	1996
Warren P. Mason	1971	K. Uno Ingard	1997
Philip M. Morse	1973	Floyd Dunn	1998
Leo L. Beranek	1975	Henning E. von Gierke	1999
Raymond W. B. Stephens	1977	Murray Strasberg	2000
Richard H. Bolt	1979	Herman Medwin	2001
Harry F. Olson	1981	Robert E. Apfel	2002
Isadore Rudnick	1982	Tony F. W. Embleton	2002
Martin Greenspan	1983	Richard H. Lyon	2003
Robert T. Beyer	1984	Chester M. McKinney	2004
Laurence Batchelder	1985	Allan D. Pierce	2005
James L. Flanagan	1986	James E. West	2006
Cyril M. Harris	1987	Katherine S. Harris	2007
Arthur H. Benade	1988		



CITATION FOR PATRICIA K. KUHL

. . . for contributions to understanding how children acquire spoken language and for leadership in the Society.

PARIS, FRANCE • 2 JULY 2008

Patricia Katherine Kuhl was born and raised in St. Cloud, Minnesota, the second of five children of Joseph and Susan Kuhl. In high school, Pat was involved in many school activities, including the debate club, the honor society, and the basketball team. She was especially interested in music, showing great enthusiasm and talent for voice and piano. Luckily for the field of speech communication, Pat's parents stressed talking in addition to music. Every night before dinner in the Kuhl household, Pat's father unplugged the telephone so that the family could discuss the day's activities, the national political scene, and world affairs. Pat's father always read the newspaper before dinner, and expected the children to do as well, so Pat read the papers before her father arrived home. Pat was always ready to debate her dad about anything and everything. For those of you who know Pat, she loves a lively discussion and is always prepared with facts as well as opinions.

Pat is married to Andrew Meltzoff, who along with Pat, is co-Director of one of the more visible research groups at the University of Washington—The Institute for Learning and Brain Sciences. Pat is also the Co-Director of another high-profile interdisciplinary research group on campus, an NSF Science of Learning Center—LIFE—which links neuroscience to education. Pat and Andy have enjoyed a long and productive collaboration in developmental cognitive science. According to Andy, the “best collaboration of all” was one that resulted in their daughter Katherine, who combines Andy's love of swimming and Pat's love of music. Katherine is one of the stars on the swim team at Trinity College in Connecticut and also had the singular distinction of participating in the first test of the acoustics in Seattle's Benaroya Hall by singing while former ASA President Cyril Harris, acoustical engineer for the Hall, dashed around taking measurements.

Pat completed her BA, MA, and Ph.D. degrees in Minnesota at St. Cloud State University and the University of Minnesota. Pat's interest in the development of speech perception in children began with her postdoctoral years at the Central Institute for the Deaf with James D. Miller. Those years led to a series of papers that examined the responses of mammals and children to speech. She established commonalities between mammals and human infants in their response to speech sounds, and, importantly, where their patterns of responses to speech stimuli diverged.

In the early 1980's, Pat's interest expanded beyond the auditory perception of speech to include studies of how infants integrate auditory and visual information about speech, and to the imitation of speech. Especially impressive has been Pat's insights into the future of speech research: She has consistently published important papers that inspire new lines of research, from her animal studies in the 70's and 80's, to her auditory-visual and imitation work in the 80s, to her work on language experience and its effects on learning in the early 90's, and her most recent work which is forging new territory using the tools of modern neuroscience. She has most recently worked to develop baby Magnetoencephalography (MEG). The technique is completely safe, non-invasive, and noiseless, and Pat and her team worked with engineers in Helsinki to develop ways to track an infant's head movements so the baby's brain activities can be precisely located in the infant brain as the child listens to language or music, and processes complex social information. Pat has a unique talent for spotting where the next interesting finding may lie, and an ability to put together the resources and interdisciplinary research teams needed to conduct work that few others would be able to accomplish. She has forged collaborations with speech scientists from Japan, Taiwan, Sweden, Russia, Finland, Spain, China, France, and Mexico to study how language experience affects speech processing in adults and young children. Pat's students also come from many different countries, and a tour through her Institute introduces a visitor to students from Taiwan, Japan, China, Mexico, and Finland. Once trained, many of these students return to their native countries to set up speech research laboratories of their own.

Pat's research has had theoretical as well as practical impact. If you have ever tried to learn a new language as an adult, you soon recognize that it is difficult to pronounce certain sounds, or even to hear the relevant differences, while your children seem to pick

up foreign languages easily and speak without an accent. Pat has performed pioneering research in this field and learned from her studies with babies as young as 6 months that infants are born “citizens of the world” with regard to language. They can distinguish sounds from languages around the world, even if they have never heard them before. By the end of the first year of life, however, they become “language-specialists”—the ability to attend to native-language sounds increases substantially while the ability with foreign languages diminishes. Pat proposed the Native Language Neural Commitment Theory to account for this dramatic developmental change. The model shows that infants use computational abilities to “crack” the speech code and, interestingly, that infants’ social skills may “gate” learning. She and her students showed that infants learn phonemes and words rapidly from a live foreign-language tutor at 9 months of age but that the same foreign-language material presented from a TV or audio-tape produces no learning. The finding has theoretical implications as well as implications for education and society.

Pat’s research in acoustics has led to a number of singular honors: for example, she is a member of the American Academy of Arts and Sciences, the Rodin Academy, and the Norwegian Academy of Science and Letters. She was awarded the Silver Medal of the Acoustical Society of America in 1997, and the Kenneth Craik Research Award from Cambridge University in 2005. She received the University of Washington’s Faculty Lectureship Award in 1998, and in 2007, she was awarded the University of Minnesota’s Outstanding Achievement Award. Pat is a Fellow of the American Association for the Advancement of Science, the Acoustical Society of America, and the American Psychological Society.

Pat has also been an eloquent spokesperson for childhood learning and was one of six scientists invited to the White House in 1997 to make a presentation at President and Mrs. Clinton’s Conference on “Early Learning and the Brain.” In 2001 she was invited to make a presentation at President and Mrs. Bush’s White House Summit on “Early Cognitive Development: Ready to Read, Ready to Learn.” In 1999, she co-authored *The Scientist in the Crib: Minds, Brains, and How Children Learn*.

Pat has played an active role in the affairs of the Society for a number of years. She has served as an Associate Editor of the *Journal*, as a member of the Executive Council, and as a member or chair of several committees. Pat was cochair of the joint 135th meeting of the Acoustical Society of America and the 16th International Congress on Acoustics in 1998 as well as coeditor of its proceedings. She was cochair of the ASA’s 75th Anniversary Celebration Committee with Leo Beranek in 2004. As part of the celebration, Pat organized a series of presentations by nine young investigators entitled “A Celebratory Look into the Future.” She was elected the Society’s Vice President in 1996, and in 1999 was the first woman elected President of the ASA. While President, Pat created the Student Council, one of the most successful presidential initiatives, and one that has generated great enthusiasm among our younger members.

The Gold Medal winners of the ASA are indeed a select group; they have been outstanding innovators and leaders in science and engineering and they have brought great recognition to our Society. Patricia Kuhl now joins this elite group and elevates its stature even more.

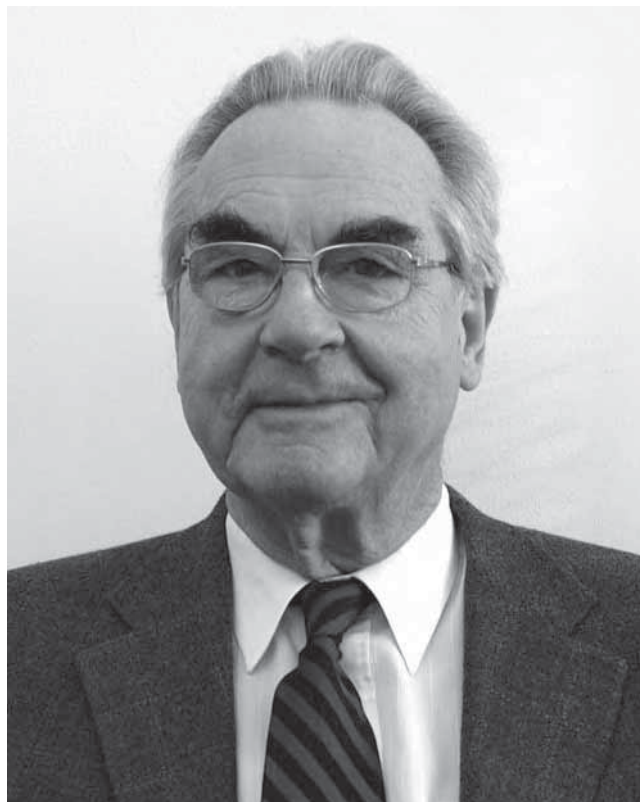
FREDERICKA BELL-BERTI
YANG ZHANG
PAUL IVERSON



EAA AWARD 2008

For lifetime achievements in acoustics

Gunnar Rasmussen



For his outstanding contribution in the field of acoustic measurements and instrumentation

Gunnar Rasmussen is a pioneer in the construction of acoustic instrumentation, particularly of pressure transducers and related devices. He was employed at Brüel & Kjær Denmark as an electronics engineer immediately after his graduation in 1950. After holding various positions in development, testing and quality control, he spent one year in the United States working for Brüel & Kjær in sales and service. After his return to Denmark in the mid-1950's he began the development of a new measurement microphone. This involved the invention of new methods for manufacturing microphone diaphragms in electro-galvanic deposited nickel, to replace the very corrosive aluminium foil diaphragms in use at that time. Also the mechanical construction was drastically simplified from more than 30 different parts to less than 10 parts. This resulted in superior mechanical stability, increased temperature and long term stability. The resulting one-inch pressure microphone soon became the *de facto* standard microphone for acoustical measurements.

The optimized mechanical design of the new generation of measurement microphones opened up the possibility for reducing the size of the microphones, first to a 1/2" microphone and then to 1/4" and 1/8" microphones with essentially the same superior mechanical, temperature and long term stability. Notably the 1/2" microphone is still the most widely used noise abatement tool today. Since the beginning of the 1960's, this microphone design has been preferred for all types of acoustic measurements and has formed the basis for the IEC 1094 series of international standards for measurement microphones.

Gunnar Rasmussen received the Danish Design Award in 1969 for his novel design of the microphones which were exhibited at the New York Museum of Modern Art. He also developed the first acoustically optimized sound level meter, where the shape of the body was designed to minimize the effect of reflections from the casing to the microphone. This type 2203 sound level meter was for many years seen as the archetype of sound level meters and its characteristic shape became the symbol of a sound level meter. It was also awarded the Danish Design Award in 1965.

Other major inventions and designs include the Delta Shear accelerometer, the dual piston pistonphone calibrator for precision calibration, the face-to-face sound intensity probe and hydrophones, occluded ears, artificial mouth, etc. Gunnar Rasmussen is also the author of numerous papers on acoustics and vibration and has served as chairman and vice-chairman of various international organizations and standard committees. In 1990 he received the CETIM medal for his contributions to the field of intensity techniques. He is also a Fellow of the Acoustical Society of America.

In 1994 Gunnar Rasmussen started his own company, G.R.A.S. Sound and Vibration. Started as a company specializing in precision outdoor microphones for permanent noise monitoring around airports, it is now one of the world's leading companies in acoustic front-ends and transducers forming a wide range of general purpose and specialized microphones, electro-acoustic measurement devices such as ear couplers, precision calibration tools and multi-dimensional sound intensity probes. After many years of rich and fruitful work, Gunnar Rasmussen is still very active with the design of new transducers and solutions. At the same time he is an indispensable partner in discussions of measurement standards, where he provides valuable input and help for younger colleagues who admire his deep knowledge and experience and acknowledge his kindness and modest character.

EAA wishes to honour Gunnar Rasmussen for his tremendous impact on acoustics, for being an example for generations of scientists and engineers dealing with acoustic measurements, for the expertise he has given to us all.



EAA AWARD 2008

For contributions to the promotion of Acoustics in Europe

FASE Federation of Acoustical Societies of Europe 1971-1996



Federation of Acoustical Societies of Europe
Fédération Européenne des Sociétés d'Acoustique
Europäische Föderation der akustischen Gesellschaften
Федерация Акустических Обществ Европы

For the establishment, organization and support of new platforms of cooperation, partnership and friendship among European acousticians

Probably very few people in Europe know that on 9 May 1950 the first move was made toward establishing the European Union. On that day in Paris, against the background of the threat of a Third World War engulfing Europe as a whole, French Foreign Minister Robert Schuman read to the international press a declaration calling upon France, Germany and other European countries to pool together their coal and steel production as “the first concrete foundation of a European federation.”

Probably very few acousticians in Europe know that on 26 August 1968 during the 6th International Congress on Acoustics in Tokyo, the first move was made towards the creation of the European Acoustics Association (EAA). On that day in Tokyo, on the initiative of Prof. G. Kurtze and Prof. E. Zwicker, a semi-official meeting of the delegates of the European acoustical societies was organized in order to discuss the possibilities of founding the Federation of Acoustical Societies of Europe.

It took three more years to consult with different societies and to establish the main purposes of the new “learned society.” Finally on 24 August 1971 in Budapest, representatives of 13 acoustical societies declared the foundation of FASE, the Federation of Acoustical Societies of Europe, and a provisional steering committee was elected.

On 5 May 1972, the first meeting of the FASE Council took place in Paris with the election of officers: Prof. J. Frenkiel (President), Prof. W. Furrer (Vice-President), Dr. F. Kolmer (Secretary), as well as the approval of a program of activities concerning the coordination of scientific acoustical events, information on possibilities of vacancies in acoustical institutions in Europe (universities, research institutes, firms, etc.) and a survey on education in acoustics in Europe.

During the next 25 years more European acoustical societies, academies of sciences and associations joined FASE, 7 Congresses on Acoustics and 12 Symposia on specific acoustic topics and in different European cities were organized, 25 Council meetings were held and more officers and members of the council were involved in these activities.

On a voluntary basis FASE has contributed to establish and sustain the contact between scientists in acoustics in the former Eastern Block countries and in Western Europe during a historical period in which travel and exchange of information was difficult. FASE has established fruitful collaboration, representing Europe, with international societies such as ICA, ASA, EEAA, ESCA, CEC, and ICSU. In 1986 FASE contributed to the publication of the volume *Noise Pollution* of the SCOPE (Scientific Committee on Problems of the Environment, ICSU) through Prof. A. Lara-Sáenz in collaboration with Prof. R.W.B. Stephens who called together 23 specialists in acoustics. FASE has promoted international journals and has organized surveys on education in acoustics.

During the development of the European Union it became necessary to build an association like an image of nations represented by their national societies rather than a group of societies, associations and academies of sciences. Accordingly, on 1 January 1997, with a natural process, FASE was integrated into the European Acoustics Association (EAA) which formally took the inheritance of FASE's purposes and activities.

The Federation of Acoustical Societies of Europe was not only the first and successful attempt of harmonization among acoustical societies in Europe but it also represented a generation of European acousticians, their knowledge and their efforts.

The award will be presented to Prof. Paul François, Prof. Felix Kolmer and Prof. Andrés Lara-Sáenz on behalf of FASE.



EAA AWARD 2008

For outstanding recent scientific results published in ACTA ACUSTICA UNITED WITH ACUSTICA

The award for outstanding recent research is given to a team of researchers for their contribution in the field of acoustics with the strict requirement that they published their results in the EAA scientific journal ACTA ACUSTICA UNITED WITH ACUSTICA within three years prior to the date that the award is given. In 2008 this EAA award goes to:

Catherine Guastavino, Brian F. G. Katz,
Jean-Dominique Polack, Daniel J. Levitin, Danièle Dubois

For their work on linguistic exploration of verbal data as a methodology for exploring the cognitive processing of environmental sounds, first published in:

Ecological Validity of Soundscape Reproduction **ACTA ACUSTICA UNITED WITH ACUSTICA Vol. 91 (2005) 333 – 341**

“A fundamental aim of psychoacoustics is to better understand how acoustic phenomena are perceived and represented at a cognitive level by individuals. Mental representations of sounds cannot be observed directly, but one way to study these representations empirically is through language, specifically, by analyzing how people talk about their sensory experiences.” With these opening sentences the authors immediately point to the new line of thinking in psychoacoustics that they propose. Their methodology for digging into the cognitive level seems able to capture both the effect of *source events* and of the effect of *background noise*. Perception of environmental sound based on cognitive processes grounded in source recognition, have been well understood and can be studied using various methods. In environments with multiple sources, the soundscape is processed as a whole since source identification is hindered. The methodology proposed by the authors also allows the investigation of the perception of this background noise. In this case, mental representations related to both physical properties of the acoustic signal and semantic features and psychological effects can be identified.

In the awarded paper the authors apply the proposed methodology to investigate the ecological validity of reproduction of environmental soundscapes. They observed that ecological validity is easily obtained for sound events but that reproducing the urban background noise required immersive multichannel reproduction. This confirms existing knowledge on the cognitive processing of environmental sound. In later publications cited below the team applies their new methodology for exploring the meaning of urban soundscapes for its users and thus proves wider applicability of their methodology.

The awarded team goes beyond the classical paths of psychoacoustics and proposes a methodology for exploring mental representations of environmental sound. The novelty and potential impact of this approach were main motivations for the jury to select this work for the 2008 award for outstanding scientific results published in ACTA ACUSTICA UNITED WITH ACUSTICA.

The full paper can be downloaded from ACTA ACUSTICA UNITED WITH ACUSTICA ONLINE at www.ingentaconnect.com/content/dav/aaau.

Further reading

Dubois, D., Guastavino, C., and Raimbault, M. (2006). “A cognitive approach to urban soundscapes: Using verbal data to access everyday life auditory categories,” *Acta Acustica United with Acustica* 92, 865–874.

Guastavino, C., (2006) “The Ideal Urban Soundscape: Investigating the Sound Quality of French Cities,” *Acta Acustica United with Acustica*, 92, 945–951.

FOREIGN MEDAL 2007 of the French Acoustical Society



Walter LAURIKS

The Foreign Medal is annually presented to a renowned scientist having strong relations with French acousticians

PREVIOUS RECIPIENTS

1966	BERANEK (USA)
1967	L. PIMONOW (Poland)
1968	SACERDOTE (Italy)
1969	FRENKIEL (Belgium)
1970	MALECKI (Poland)
1971	TARNOCZY (Hongrie) et KOBRYNSKI (Poland)
1972	FURRER (Switzerland)
1973	STEPHENS (United Kingdom)
1974	GRUTZMACHER (German)
1975	RYFFERT (Poland)
1976	LARA-SAENZ (Spain)
1977	BOSQUET (Belgium)
1978	A.STAN (Romania)
1979	TARABA (Czechoslovakia)
1980	WANG TE CHAO (China)
1981	INGERSLEV (Denmark)
1982	KURTOVIC (Yugoslavia)
1983	CREMER (Germany)
1984	LAUBER (Switzerland)
1985	DOAK (United Kingdom)

1986	MYNCKE (Belgium)
1987	KUTRUFF (Germany)
1988	W.G. MAYER (USA)
1989	J.E. FLOWERS WILLIAMS (United Kingdom)
1990	J. BLAUERT (Germany)
1991	G. WEINREICH (USA)
1992	O. B. WILSON (USA)
1993	Z. SKVOR (Czech Republic)
1994	F. FAHY (United Kingdom)
1995	L. BJØRNØ (Denmark)
1996	H. UBERALL (USA)
1997	HIRSCHBERG (The Netherlands)
1998	H. LEVINE (USA)
1999	W. LAUTERBORN (Germany)
2000	M. CAMPBELL (United Kingdom)
2001	O. LEROY (Belgium)
2002	G. DAIGLE (Canada)
2003	M. ROSSI (Switzerland)
2004	J. WOLFE (Australia)
2005	V. PREOBRAJENSKI (Russia)
2006	M. LOWE and P. CAWLEY (United Kingdom)



Walter Lauriks (born in 1961 in Reet – Belgium, married, 3 children) obtained a Master in Physics in 1983 and his Ph.D. in Physics in 1990, both at the University of Leuven (Belgium). Since then he worked as a research fellow at the Laboratory of Acoustics and Thermal Physics of the Department of Physics of the University of Leuven (K.U.Leuven), his main research area being sound propagation in elastic porous materials (also the subject of his Ph.D. thesis). He was responsible for multiple research projects in acoustics (among others for the Scientific Research Fund Flanders).

In 2005, Walter Lauriks became full professor and director of the Laboratory of Acoustics and Thermal Physics of the K.U.Leuven. At present, he is responsible for teaching different courses at the Faculty of Science and the Faculty of Engineering of the university: “Electricity and Magnetism”, “Optics, Lasers and Acoustics” and “Physical Acoustics”. Until now, he supervised 13 PhD theses (as advisor or promotor) and he was 37 times Jury member of Ph.D. committees, both national and international.

Walter Lauriks has developed a close and fruitful collaboration with the Laboratoire d’Acoustique de l’Université du Maine (UMR CNRS 6613, Le Mans, France) for more than twenty years and more recently with the LMA (Marseille, France) mainly in the domain of acoustics of air saturated porous media. He pioneered research in this field. The results of these works have many implications, ranging from fundamental studies to Applied Architectural Acoustics and the metrology of sound absorbing porous media.

Walter Lauriks is main author or co-author of more than 100 publications in international peer-reviewed journals and more than 110 conference proceedings for international conferences. At different occasions, he was session organiser and/or session chairman at these conferences. He also contributed to 7 book chapters.

Since 1997, Walter Lauriks is Associate Editor Physical Acoustics “Acustica united with Acta Acustica”. He is member of several scientific organisations: Société Française d’Acoustique, Acoustical Society of America, Association Belge des Acousticiens (board member), Netherlands Akoestisch Genootschap (Dutch Acoustical Society NAG, board member), IEEE, The American Association of Physics Teachers.

FRENCH MEDAL 2007 of the French Acoustical Society



Vitalyi GUSEV

2007

The French Medal is annually presented to a French scientist, who has contributed significantly to the reputation of French acoustics.

PREVIOUS RECIPIENTS

1966	CANAC and P. CHAVASSE
1967	A. BARON
1968	R. LUCAS
1969	J. BRILLOUIN
1970	P. LIENARD
1972	R-G. BUSNEL
1973	T. VOGEL
1974	J-J. MATRAS
1975	R. CHOCHOLLE
1976	J. PUJOLLE
1977	R. SIESTRUNK
1978	E. LEIPP
1979	P. RAPIN
1980	M. BURGEAT
1981	A. DIDIER
1982	A. BERGASSOLI
1983	G. COMTE-BELLOT
1984	J. MATTEI (refused)
1985	R. LEHMANN
1986	P. LORAND

1987	P. FRANCOIS
1988	E. DIEULESAINT
1989	B. POIREE
1990	R. CARRE
1991	C. GAZANHES
1992	J-F. ALLARD
1993	M-C. BOTTE
1994	J-P. HATON
1995	J. RIPOCHE
1996	A.M. BRUNEAU
1997	J. POULIQUEN
1998	D. ROYER
1999	P. FILLIPI
2000	A. DANCER
2001	G. CANEVET
2002	P. GATIGNOL
2003	M. FINK
2004	M. BRUNEAU
2005	C. LESUEUR
2006	D. CATHIGNOL



Professor Vitalyi GUSEV received degrees of PhD (1982) and Dr. Sc. (1991) in Physics and Mathematics from Moscow State University (Russia). After several years of being researcher and assistant professor at the same university, he joined in 1990 the International Laser Centre at Moscow State University where he was associated professor. In 1998, he joined University of Maine in Le Mans (France) where he became professor in a national engineering school (ENSIM). He is now full professor of University of Maine at the highest grade and he is since 2006 the Senior member of the "Institut Universitaire de France" (Institute of French Universities) because of his outstanding research achievements.

Pr. Gusev is the recipient of several awards, including the Lenin Comsomol Prize in Science and Technology (1987, Russia), the distinction of the International Science Foundation (1994), Senior Prize of International Photoacoustic and Photothermal Association" (2004).

He was invited in several universities (Sapporo, Japan - Heidelberg, Germany - Brown, USA - Toronto Canada - Leuven, Belgium - Paris, France) as fellow, visiting scientist, visiting professor, etc. He gave more than 50 lectures and seminars as an invited speaker. He is member of international scientific committees, among them: International Congress on Ultrasonics, International Conference on the Emerging Technologies in Quantitative Non-destructive Testing, International Conference on Photoacoustic and Photothermal Phenomena...

He is the author of more than 400 scientific publications, among them more than 180 are in international scientific journals or are book chapters. He also published a book "Laser Optoacoustics" with A. Karabutov (translated from Russian into English in 1993 by the American Institute of Physics, New York, USA).

His fields of research can be summarised mainly as: photothermal and photoacoustic phenomena, picosecond ultrasonics, nonlinear acoustics, acoustics of micro-inhomogeneous media, thermoacoustics. He has made deep and original contributions in all of his fields of interest and even he had a pioneering role in tackling theoretically several challenging