



Chester M. McKinney, former Acoustical Society of America (ASA) President, Gold Medalist, and winner of many US Navy and professional society awards, died on January 21, 2017.

Born in Cooper, TX, he graduated in 1941 from East Texas State Teachers College and taught high-school physics before serv-

ing in the US Army Air Corps (1942-1946) as a radar officer.

After World War II, Chester attended the University of Texas at Austin (UT Austin), earning a master's degree in physics under Robert Watson (1947) and a doctorate under Claude Horton (1950), while becoming the first graduate student at UT Austin's Defense Research Laboratory (DRL), now the Applied Research Laboratories (ARL:UT). After teaching at Texas Technological University (1950-1953), he returned to the DRL and soon became an expert in high-resolution sonar physics and engineering. His research focused on developing sonar for the detection and classification of undersea naval mines and on a wide variety of related subjects such as the backscattering of sound from the seafloor, the scattering of sound from mine cases and other targets, bottom mapping, and swimmer detection. His insight and pioneering research led to the new field of classification sonar, which enabled a sonar operator to distinguish naval mines from the numerous false targets found in shallow water. He also published many papers in *The Journal of the Acoustical Society of America* on the acoustic fields of transducers, especially the incorporation of reflector shapes to efficiently create narrow sound beams. He became a sagacious and insightful leader and was director of DRL/ARL:UT during formative periods of its history (1965-1980), which included developing a widely recognized science and engineering staff and a new building and research campus as well as a first-class underwater test facility at nearby Lake Travis. The history of DRL/ARL:UT pertaining to acoustics is summarized in a *Proceedings of Meetings on Acoustics* article (23, 070014, 2015).

Chester joined the ASA in 1953, became a Fellow in 1958, and provided legendary service to the Society. His many contributions to the ASA included being a founding member of the Technical Committee on Underwater Acoustics and its first chair (1956), and he was instrumental in the establishment of three committees: Archives, Tutorials, and Public Relations. He chaired the local committee for the 1975 Austin meeting, where he proposed and implemented changes to meeting formats that continue today: the poster sessions, the plenary sessions for presentations and awards, and the Tuesday and Thursday evening socials. In 1989, he directed the first comprehensive census of the Society membership.

Chester married Linda Hooten in 1949, and their 68 years of marriage saw the birth of two daughters, Margaret Phoebe and Katherine Elizabeth, as well as five grandchildren and one great-grandchild.

After retiring from ARL:UT, he served as liaison scientist with the Office of Naval Research in London, UK (1983-1984). In 2000, a new ARL:UT building was named in his honor. Further information on Chester McKinney is found on the Web links <http://acousticstoday.org/mckinney> and http://acousticstoday.org/asa_mckinney.

Selected Articles by Chester M. McKinney

McKinney, C. M., and Anderson, C. D. (1964). Backscattering of sound from the ocean bottom. *The Journal of the Acoustical Society of America* 36, 158-163.

McKinney, C. M., Harvel, K. W., and Ellis, G.E. (1972). Characteristics of line and disk underwater sound transducers in the near- to farfield transition region. *The Journal of the Acoustical Society of America* 51, 1076-1082.

McKinney, C. M., Hurdle, B. G., and Blue, J. E. (1992). A profile of the acoustics community in the United States and Canada, *The Journal of the Acoustical Society of America* 91, 1169-1179.

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William N. Tavolga, professor emeritus of biology at City College of New York (CCNY) and senior scientist emeritus at the Mote Marine Laboratory (MML; Sarasota, FL), passed away on April 28, 2017, in Sarasota, FL. Born in New York City to émigré Russian musician parents, as a child Bill was always turning

over rocks and making lists, circumventing his father's ambitions for him to become a concert pianist. Bill graduated from CCNY and received his doctorate in fish reproductive biology from New York University (NYU) in 1949. He then joined the faculties at CCNY and the Department of Animal Behavior at the American Museum of Natural History.

Bill was one of the true pioneers in the field of sensory biology of aquatic animals and, in particular, animal bioacoustics. Indeed, much of the work being conducted in that discipline today by Acoustical Society of America members has been influenced, directly or indirectly, by his contributions. Bill originated the phrase Marine BioAcoustics and was one of the early pioneers and founders of the field through his research and the reviews and meetings he organized (e.g., Tavolga, 1964).

Bill started working on fish bioacoustics after being asked by a friend if fish make sounds. Lacking a hydrophone, Bill took a cheap microphone and waterproofed it with a condom. Using this device, he heard sounds from gobies (bottom-dwelling fish), and this led to a study that, for the first time, demonstrated that a fish species incorporated sound, chemical signals, and visual signals in courtship behavior and that courtship stopped if the sounds stopped (Tavolga, 1956).

Having explored sound production, Bill wanted to know how well fish could hear. Although this had been studied by others, Bill was the first to apply modern psychophysical and quantitative methods to measure fish hearing. His first studies on hearing provided auditory thresholds for nine species (Tavolga and Wodinsky, 1963) and he later character-

ized masking in fishes (Tavolga, 1974). Bill did a wide range of other behavioral and anatomical studies, demonstrating sound production mechanisms in a marine catfish and showing that the fish can use its sounds to echolocate around objects (Tavolga, 1977). Bill produced one of the first collections of marine animal sounds, including invertebrates, fishes, and marine mammals, complete with sonograms and an accompanying cassette tape for the US Navy (<http://acousticstoday.org/tavolga>). Bill continued to work at MML after officially retiring. He published research on ultrasonic hearing in fishes when he was 80 years old, and his last scholarly paper was published when he was 92.

Bill had other interests besides marine bioacoustics. He was an accomplished pianist and lover of all kinds of music. He was fluent in Russian and the author of the first Russian-language word processor, *Volgawriter*, (<http://www.volgawriter.com/>).

Bill met his wife Margaret at NYU. She was professor emerita of biology at Fairleigh Dickinson University (Teaneck, NJ) and died after almost 50 years of marriage. Bill leaves his loving partner, Paula John, and a worldwide circle of colleagues and friends who remember Bill as an extraordinary teacher, scholar, mentor, and role model.

Selected Articles by William N. Tavolga

- Tavolga, W. N. (1956). Visual, chemical and sound stimuli as cues in the sex discriminatory behavior of the gobiid fish, *Bathygobius soporator*. *Zoologica* 41, 49-64.
- Tavolga, W. N. (Ed.). (1964). *Marine BioAcoustics*. Pergamon Press, Oxford, UK.
- Tavolga, W. N. (1974). Signal-noise ratio and the critical band in fishes. *The Journal of the Acoustical Society of America*, 55(6), 1323-1333.
- Tavolga, W. N. (1977). Mechanisms for directional hearing in the sea catfish (*Arius felis*). *Journal of Experimental Biology* 67, 97-115.
- Tavolga, W. N., and Wodinsky, J. (1963). Auditory capacities in fishes: Pure tone thresholds in nine species of marine teleosts. *Bulletin of the American Museum of Natural History* vol. 126, article 2.

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