

Obituary

James David Miller, 1930–2020



James David (Jim) Miller, a Fellow and member of the Executive Council of the Acoustical Society of America and prolific contributor of research in several areas of human communication,

died at age 90 on August 20, 2020, in Bloomington, IN. Jim's career spanned a remarkable 65 years; his final publications in *The Journal of the Acoustical Society of America* in 2017 and 2020 are extensive studies of speech recognition by hearing aid users.

Born in West Allis, WI, Jim attended the University of Wisconsin-Madison, where he was an assistant in Harry Harlow's primate laboratory. He went on to graduate work at Indiana University (Bloomington), where his dissertation on noise-induced temporary threshold shifts was supervised by James Egan. In 1958, after completing his PhD in experimental psychology, he was placed in charge of an Air Force-funded project on noise-induced deafness in cats. After three years, that effort resulted in one of the most widely cited studies of the systematic influence of various levels of intense noise on the mammalian ear, in terms of both behaviorally measured hearing loss and damage to specific cochlear structures.

In 1961, Jim was recruited by the Central Institute for the Deaf (CID) in St. Louis (MO). He stayed at the CID for the next 40 years, initially as head of the animal research program and later assuming many other leadership roles. He retired in 2001 as Emeritus Director of Research at the CID. In 2003, he was invited for a semester visit to Indiana University and stayed in Bloomington for the remaining 17 years of his life, as an adjunct faculty member and as Principal Scientist at Communication Disorders Technology, Inc.

The list of Jim's scientific accomplishments is long, but even longer is that of the many students and research collaborators who have been outspoken in describing his excellence as a teacher, his remarkable insights in

the interpretation of research findings, and his steadfast adherence to rigor and honesty in science. He pioneered the use of the chinchilla in auditory research and fostered the work of Robert Dooling on songbirds and Patricia Kuhl on sensitivity to speech sounds in infants. With anatomists Walter Covell and Barbara Bohne, he extended his groundbreaking work on noise-induced deafness in animal models. As director of research, he fostered and guided a group of CID audiologists and engineers who patented the first wearable digital hearing aid. Jim also became interested in speech recognition and, with various collaborators, published a series of studies, gradually developing what became his "auditory-perceptual theory of phonetic recognition." In Jim's final years of research, he directed a multi-university study of speech perception training by hearing aid users plus an application of the same principles to improving the communication skills of students of foreign languages.

In addition to his remarkably full career as a scientist, Jim found time for a lifelong dedication to becoming the best tennis player he could. He also firmly believed in "striving for a more perfect union" and did house-to-house campaigning in recent elections.

He is survived by his former wife Dolores; their children, Valerie, Lucia, and Harry; and granddaughter Rose.

Selected Publications by James David Miller

- Miller, J. D. (1989). Auditory-perceptual interpretation of the vowel. *The Journal of the Acoustical Society of America* 85, 2114-2134.
- Miller, J. D., Niemoeller, A. F., Pascoe, D., and Skinner, M. W. (1980). Integration of the electroacoustic description of hearing aids with the audiologic description of clients. In G. A. Studebaker and I. Hochberg (Eds.), *Acoustic Factors Affecting Hearing Aid Performance*. University Park Press, Baltimore, MD.
- Miller, J. D., Watson, C. S., and Covell, W. P. (1963). Deafening effects of noise on the cat. *Acta Oto-Laryngologica Supplement* 176, 1-91.
- Miller, J. D., Watson, C. S., Leek, M. R., Dubno, J. R., Wark, D. J., Souza, P. E., Gordon-Salant, S., and Ahlstrom, J. B. (2017). Syllable-constituent perception by hearing-aid users: Common factors in quiet and noise. *The Journal of the Acoustical Society of America*. 141(4), 2933-2946.
- Miller, J. D., Watson, C. S., Leek, M. R., Wark, D. J., Souza, P. E., Gordon-Salant, S., Ahlstrom, J. B., and Dubno, J. R. (2020). Sentence perception in noise by hearing-aid users predicted by syllable-constituent perception and the use of context. *The Journal of the Acoustical Society of America*. 147, 273-284.

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