



On August 6, 2016, our colleague **Donald C. Teas** passed away in his home at the age of 89 surrounded by his children. Don was a Fellow of the Acoustical Society of America and past chair of the Psychological and Physiological Acoustics (P&P) Technical Committee.

Don attended the University of Texas at Austin, where he received all of his degrees and where his interest in hearing began. In 1958, he began postdoctoral studies that focused on the electrophysiology of hearing at the Central Institute for the Deaf in St. Louis, MO. He continued his postdoctoral studies in the Communications Biophysics Laboratory at the Massachusetts Institute of Technology. From 1962 to 1967, he worked at the University of Pittsburgh Eye and Ear Hospital. In 1967, Don joined the faculty in the Communication Sciences Laboratory at the University of Florida where he worked for 22 years, mentoring several graduate students and postdocs in studies of a variety of electrophysiological responses to acoustic stimulation.

Don conducted pioneering work on the electrophysiological correlates of auditory processing. In 1962, Teas et al. demonstrated that the traveling wave of Georg von Békésy could be described in terms of the cochlear microphonic as a function of time and place along the cochlea. He then used noise and controlled injury to the cochlea to partial out the components of the whole nerve action potential (AP) and showed that the AP was a complex response. In the AP, which is the sum of individual neural responses, the positive phases of the earlier individual responses cancel the negative phases of later responding neurons that occur at the same time.

Together with Lloyd Jeffress and others at UT Austin, Don coauthored two classic papers on sound localization in the 1950s (Sandel et al., 1955). Then with David Tanis in 1974, he used auditory evoked potentials (AEPs) recorded from the top of the skull in humans to study a variety of interaural phase differences over a broad range of intensities (Tanis and

Teas, 1974). They discovered that the amplitude of the N1-P2 component of the AEP was greater for antiphase than for homophase stimuli and that at higher signal-to-noise ratios or in the absence of an external noise masker where loudness differences disappear, the difference between N1-P2 amplitudes evoked by homophase and antiphase stimuli persisted. This technique is now used in animals to study sound localization.

Throughout his life, Don was an active musician. Before and during college, he earned his living as a “reed man” playing the flute, clarinet, and alto sax in Austin-based jazz swing bands. After retirement, he played alto sax with the Austin Community College Jazz Band.

Don is survived by his son Malcolm Teas, daughter-in-law Pamela King, daughter Eliza Teas-Trudeau, son-in-law James Trudeau, grandson Thomas Trudeau, daughter Robin Teas, and son-in-law William Moore.

#### *Selected Articles by Donald C. Teas*

- Sandel, T. T., Teas, D. C., Feddersen, W. E., and Jeffress, L. A. (1955). Localization of sound from single and paired sources. *The Journal of the Acoustical Society of America* 27, 842-848.
- Tanis, D. C., and Teas, D. C. (1974). Evoked potential correlates of interaural phase reversals. *Audiology* 13, 357-365.
- Teas, D. C. (1962). Lateralization of acoustic transients. *The Journal of the Acoustical Society of America* 34, 1460-1464.
- Teas, D. C., Eldredge, D. H., and Davis, H. (1962). Cochlear responses to acoustic transients: An interpretation of whole-nerve action potentials. *The Journal of the Acoustical Society of America* 34, 1438-1459.
- Teas, D. C., Konishi, T., and Nielsen, D. W. (1972). Electrophysiological studies on the spatial distribution of the crossed olivocochlear bundle along the guinea pig cochlea. *The Journal of the Acoustical Society of America* 51, 1256-1264.

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