probe." J. Acoust. Soc. Am. 57: 705-723.

Xue, S., D. C. Mountain and A. E. Hubbard (1995). "Electrically evoked basilar membrane motion." J. Acoust. Soc. Am. 97(5, Pt 1): 3030-41.

Yates, G. K., I. M. Winter and D. R. Robertson (1990). "Basilar membrane nonlinearity determines auditory nerve rate-intensity functions and cochlear dynamic range." Hear. Res. 45: 203-220.

Young, E. D. and M. B. Sachs (1979). "Representation of steadystate vowels in the temporal aspects of the discharge patterns of populations of auditory-nerve fibers." J. Acoust. Soc. Am. 66: 1381-1403.

Zheng, J., W. Shen, D. Z. He, K. B. Long, L. D. Madison and P. Dallos (2000). "Prestin is the motor protein of cochlear outer

hair cells." Nature 405(6783): 149-155.

Zweig, G. and C. A. Shera (1995). "The origin of periodicity in the spectrum of evoked otoacoustic emissions." J. Acoust. Soc. Am. 98(4): 2018-2047.

Zwislocki, J. J. (1965). Analysis of some auditory characteristics. Handbook of Mathematical Psychology. R. Luce, R. Bush and E. Galanter. New York, Wiley. 3: 1-97.

Zwislocki, J. J. (1990). Active cochlear feedback: Requirerd structure and response phase. The Mechanics and Biophysics of Hearing. P. Dallos. Berlin, Springer: 114-120.

Zwislocki, J. J. and E. J. Kletsky (1979). "Tectorial membrane: A possible effect on frequency analysis in the cochlea." Science 204: 639-641.

Psychological and Physiological Acoustics Timeline

1928 ••••	Founding meeting of ASA.
1929 ••••	First volume of JASA.
1930 ••••	Measurement of "auditory impulses" (Wever and Bray).
1931 ••••	Estimate of just detectable changes in frequency (Shower and Biddulph).
1933 ••••	Estimate of absolute threshold (Sivian and White).
1938 ••••	Pitch of the Residue: evaluating the role of temporal analysis in pitch perception (Schouten).
1943 ••••	Physiological tuning curves (probably cochlear nucleus, Galambos and Davis).
1948 ••••	Binaural Unmasking (Hirsh).
1953 ••••	Elucidation of the "Cocktail-party" problem (Cherry).

Psychological and Physiological Acoustics Timeline

1961 ••	 Georg von Békésy awarded Nobel Prize in Medicine "for his discoveries of the physical mechanism of stimulation within the cochlea."
1965-6	8 Measurement of auditory nerve fiber responses and cochlear nonlinearity (Kiang, Rose, Sachs, Goldstein).
1966 ••	•• Estimate of head-related transfer function (human, Shaw).
	Signal Detection Theory emerges as an important experimental psychology tool (e.g. Green and Swets).
1968 ••	•• Afferent innervations of inner ear described (Spoendlin).
1970 ••	•• First direct recording from hair cells (Weiss et al.).
1971 ••	•• Measurement of basilar membrane resonance curves (Rhode).
1972 ••	•• Psychophysical evidence for spectral suppression (Houtgast).
1975 ••	•• Standardization of loudness calculation procedures (ISO 532).
1978 ••	•• Measurement of otoacoustic emissions (Kemp).
1985 ••	•• Demonstration of electromotility (Brownell et al.).
2000 ••	•• Elucidation of the mechanism of outer hair cell electromotility (Zheng et al.).

Past and Present Chairs of the Technical Committee on Psychological and Physiological Acoustics

1960-61 William D. Neff

1961-62 James P. Egan

1962-64 Jozef J. Zwislocki

1964-67 John A. Swets

1967-69 Moise H. Goldstein

1969-71 David M. Green

1971-73 Peter J. Dallos

1973-75 Irwin Pollack

1975-77 Juergen Tonndorf

1977-79 Joseph L. Hall

1979-81 Charles S. Watson

1981-84 Joseph E. Hind

1984-87 Frederic L. Wightman

1987-90 Donald C. Teas

1990-93 William A. Yost

1993-96 Ervin R. Hafter

1996-99 Donna L. Neff

1999-02 Neal F. Viemeister

2002 - Virginia M. Richards

Recipients of the von Békésy Medal

1985 - Jozef J. Zwislocki - For landmark contributions to our knowledge of the hydromechanical, neurophysiological, and perceptual mechanisms of the auditory system.

1995 - Peter J. Dallos - For contributions to the understanding of cochlear processes.

1998 - Murray B. Sachs - For contributions to understanding the neural representation of complex acoustic stimuli.

Recipients of the Silver Medal in Psychological and Physiological Acoustics

1977 - Lloyd A. Jeffress - For extensive contributions in psychoacoustics, particularly binaural hearing, and for the example he has set as a teacher and scholar.

1981 - Ernest Glen Wever - For establishing the field of cochlear electrophysiology and advancing knowledge of middle and inner ear function.

1987 - Eberhard Zwicker - For prolific contributions to the understanding of fundamental auditory properties and for environmental, technological and clinical applications.

1990 - David M. Green - For outstanding experimental and theoretical contributions to hearing research and its methodology.

1994 - Nathaniel I. Durlach - For pioneering contributions to research concerning binaural hearing, intensity perception, hearing aids, tactile aids, and virtual reality.

2001 - Neal F. Viemeister - For contributions to the understanding of temporal and intensive aspects of hearing.

2002 - Brian C. J. Moore - For contributions to understanding human auditory perception, especially the perceptual consequences of peripheral frequency analysis in normal and impaired listeners.

Recipients of Interdisciplinary Silver Medals

Silver Medal in Psychological and Physiological Acoustics, Musical Acoustics, and Noise

1991 - W. Dixon Ward - For furthering knowledge of auditory perception in psychological and musical acoustics and increasing the understanding of the etiology of noise-induced hearing loss.

Helmholtz-Rayleigh Interdisciplinary Silver Medal in Psychological and Physiological Acoustics, Architectural Acoustics and Noise

1999 - Jens P. Blauert - For contributions to sound localization, concert hall acoustics, signal processing, and acoustics standards.

Helmholtz-Rayleigh Interdisciplinary Silver Medal in Musical Acoustics, Psychological and Physiological Acoustics and Architectural Acoustics

2001 - William M. Hartmann - For research and education in psychological and physiological acoustics, architectural acoustics, musical acoustics, and signal processing.