

Obituary

Glenis R. Long, 1943–2021



Glenis R. Long, a pioneer in psychoacoustics and otoacoustic emissions (OAEs; sounds generated from the cochlea), Fellow of the Acoustical Society, and recipient of the William and Christine Hartmann Prize in Auditory Neuroscience, died in New York City on July 16, 2021, at the age of 78.

Born in New Zealand, Glenis received her BA and MA degrees in experimental psychology from the University of Canterbury, Christchurch, New Zealand. She moved to Princeton University, Princeton, New Jersey, for her PhD in experimental psychology, working with Glen Wever. Glenis had an international career in hearing science that took her to positions at York College, City University of New York (CUNY), Queens; Goethe Universitat, Frankfurt am Main, Germany; Polytechnic of Central London, United Kingdom; the Central Institute for the Deaf, St. Louis, Missouri; and the Kresge Hearing Research Laboratory of the South, New Orleans, Louisiana. She spent most of her career at Purdue University, West Lafayette, Indiana, and then at the Graduate Center (GC), CUNY, from which she retired in 2017.

Glenis' early work was in psychoacoustics and it was woven throughout her career. She worked with several species besides humans, including bats, chinchillas, and kangaroo rats. She is widely recognized as being one of the early researchers to use OAEs to establish the important link between cochlear physiology and perception. Glenis' approach to science was collaborative. One consistent theme in Glenis' work was cochlear microstructure, peaks and dips in magnitude both in the perception threshold and in the OAEs measured in fine-frequency steps. She showed (in collaboration with Arnold Tubis and Carrick Talmadge in the Physics Department, Purdue) that aspirin, which affects the active process in the cochlea, affected the microstructure in OAEs and in perception. Furthermore, she showed that the effect of the microstructure is also evident in suprathreshold behavioral measures, such as loudness perception (in collaboration with Manfred Mauermann and Birger Kollmeier) and decision weights in intensity discrimination (in collaboration with Jungmee Lee and Robert

Lutfi). She also contributed as a team member to the development of a mathematical model for a mechanism of the microstructure and to the creation of innovative techniques for rapid and efficient recording of OAEs. These techniques have proven important in developing theory, making OAEs a much more useful tool for studying cochlear function, and in utilizing OAEs as a clinical tool.

Over the course of her long career, Glenis mentored many PhD students, both at Purdue and at the GC, CUNY and recruited many clinical students and undergraduates to the field. Her legacy will live on through her students and collaborators.

She is survived by her niece Tania James and nephews Chris James, Michael Woodhams, Bernard Woodhams, and Timothy Woodhams.

Selected Publications by Glenis R. Long

- Lee, J., Heo, I., Chang, A. C., Bond, K., Stoelinga, C., Lutfi, R., and Long, G. (2016). Individual differences in behavioral decision weights related to irregularities in cochlear mechanics. In van Dijk, P., Baskent, D., Gaudrain, E., de Kleine, E., Wagner, A., and Lanting, C. (Eds.), *Physiology, Psychoacoustics and Cognition in Normal and Impaired Hearing*. Springer International Publishing, Cham, Switzerland, pp. 457-466.
- Long, G. R. (1984). The microstructure of quiet and masked threshold curves. *Hearing Research* 15, 73-87.
- Long, G. R., and Tubis, A. (1988). Modification of spontaneous and evoked otoacoustic emissions and associated psychoacoustic microstructure by aspirin consumption. *The Journal of the Acoustical Society of America* 84, 1343-1353.
- Long, G. R., Talmadge, C. L., and Lee, J. (2008). Measuring distortion product otoacoustic emissions (DPOAE) using continuously sweeping primaries. *The Journal of the Acoustical Society of America* 124, 1613-1626.
- Mauermann, M., Long, G. R., and Kollmeier, B. (2004). Fine structure of hearing-threshold and loudness perception. *The Journal of the Acoustical Society of America* 116, 1066-1080.
- Talmadge, C. L., Tubis, A., Long, G. R., and Piskorski, P. (1998). Modeling otoacoustic and hearing threshold fine structure. *The Journal of the Acoustical Society of America* 104, 1517-1543.

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