WALT JESTEADT
Curriculum Vita

Present Position

Director of Research
Boys Town National Research Hospital
555 North 30th Street
Omaha, Nebraska 68131

Education

Johns Hopkins University	B.A.	1966	Psychology
University of Pittsburgh	Ph.D.	1971	Psychology
Harvard University	Post Doctorate	1974	Psychology

Professional Experience

1972 - 1973	Assistant Research Professor of Audiology, Dept. Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA
1974 - 1976	Research Fellow, Dept. of Psychology & Social Relations, Harvard University, Cambridge, MA
1976 - 1986	Coordinator, Psychoacoustics Laboratory, Boys Town National Research Hospital, Omaha, NE
1977 - 1980	Assistant Professor, Dept. Otolaryngology & Human Communication, Creighton University, School of Medicine, Omaha, NE
1980 - 1985	Associate Professor, same as above
1985 - 2002	Professor, same as above
1983 - 1984	Visiting Scientist, Research Laboratory of Electronics, MIT, Cambridge, MA
1986	Director of Research, Boys Town National Research Hospital, Omaha, NE
1989	Director, Center for Hearing Research, same as above
2002	Professor, Department of Biomedical Sciences, Creighton University School of Medicine, Omaha, NE

Professional activities, honors and memberships

NIH Postdoctoral Fellow (1975 - 1976)
American Men and Women of Science (1977 - present)
Fellow of Acoustical Society of America (1986)
Charter Fellow, Am. Psycholog. Soc. (1989)
NIDCD Pepper Award (1989 - 1996)

Member, Technical Committee, Psycholog. & Physiolog. Acoust., Acoust. Soc. Am. (1982 - 1985, 1990 - 1993)
Member of Hearing Science Study Section (October 1990 - June 1994)
Ad hoc member (June 1984, 1989)
Associate Editor, Psychological Acoustics, J. Acoust. Soc. Am. (1994 - 1997)
Editorial Consultant: J. Speech Hear. Res. (1986 - 1990)
J. Speech Hear. Disord. (1986 - 1990)
Ad hoc reviewer: J. Acoust. Soc. Am., Percept. Psychophys., J. Exp. Psychol., Hearing Res., Air Force Office of Scientific Res., NSF, NIH-NIDCD.

Memberships

Acoust. Soc. America; Assoc. Res. Otolaryngol.; Psychonomic Soc.; Am. Assoc. Adv. Sci.; Am. Psychol. Soc.; Am. Speech-Language-Hearing Assoc.; Sigma Xi; Fellow, Am. Assoc. Adv. Sci., 1998-present.

Selected Peer-Reviewed and Relevant Publications

Jesteadt, W. & Norton, S.J. (1985). The role of suppression in psychophysical measures of frequency selectivity. *J. Acoust. Soc. Am.* ***78****(1)*, 365-374.

Stelmachowicz, P.G., Jesteadt, W., Gorga, M.P. & Mott, J. (1985). Speech perception ability and psychophysical tuning curves in hearing-impaired listeners. *J. Acoust. Soc. Am.* ***77****(2)*, 620-627.

Marshall, L. & Jesteadt, W. (1986). Comparison of pure-tone audibility thresholds obtained with audiological and two-interval forced-choice procedures. *J. Speech Hear. Res.* ***29****(1)*, 82-91.

Bacon, S.P. & Jesteadt, W. (1987). Effects of pure-tone forward masker duration on psychophysical measures of frequency selectivity. *J. Acoust. Soc. Am.* ***82****(6)*, 1925-1932.

Gorga, M.P, Reiland, J., Beauchaine, K., Worthington, D. & Jesteadt, W. (1987). Auditory brainstem responses from graduates of an intensive care nursery: normal patterns of response. *J. Speech Hear. Res.* ***30****(3)*, 311-318.

Stelmachowicz, P.G., Lewis, D.E., Larson, L.L. & Jesteadt, W. (1987). Growth of masking as measure of response growth in hearing-impaired listeners. *J. Acoust. Soc. Am.* ***81****(6)*, 1881-1887.

Gorga, M.P., Kaminski, J.K., Beauchaine, K.A. & Jesteadt, W. (1988). Auditory brainstem responses to tone bursts in normally hearing subjects. *J. Speech Hear. Res.* ***31****(1)*, 87-97.

Neely, S.T., Norton, S.J., Gorga, M.P. & Jesteadt, W. (1988). Latency of auditory brainstem responses and otoacoustic emissions using tone burst stimuli. *J. Acoust. Soc. Am.* ***83****(2)*, 652-656.

Stelmachowicz, P.G., Beauchaine, K., Kalberer, A., Langer, T. & Jesteadt, W. (1988). Reliability of auditory thresholds in the 8- to 20-kHz range using a prototype audiometer. *J. Acoust. Soc. Am.* ***83****(4)*, 1528-35.

Gorga, M., Kaminski, J., Beauchaine, K., Jesteadt, W. & Neely, S. (1989). Auditory brainstem responses from children 3 months to 3 years of age: Normal patterns of response II. *J. Speech Hear. Res.* ***32****(2)*, 281-288.

Humes, L.E. & Jesteadt, W. (1989). Models of the additivity of masking. *J. Acoust. Soc. Am.* ***85****(3)*, 1285-1294.

Stelmachowicz, P.G., Beauchaine, K.A., Kalberer, A. & Jesteadt, W. (1989). Normative thresholds in the 8- to 20-kHz range as a function of age. *J. Acoust. Soc. Am.* ***86****(4)*, 1384-1391.

Stelmachowicz, P.G., Beauchaine, K., Kalberer, A., Kelly, W.J. & Jesteadt, W. (1989). High-frequency audiometry: Test reliability and procedural considerations. *J. Acoust. Soc. Am.* ***85****(2)*, 879-887.

Stelmachowicz, P.G., Lewis, D.E., Kelly, W.J. & Jesteadt, W. (1990). Speech perception in low-pass filtered noise in normal and hearing-impaired listeners. *J. Speech Hear. Res.* ***33****(2)*, 290-297.

Humes, L.E. & Jesteadt, W. (1991). Modeling the interaction between noise exposure and other variables. *J. Acoust. Soc. Am.* ***90****(1)*, 182-188.

Humes, L.E. & Jesteadt, W. (1991). Models of the effects of threshold on loudness growth and summation, *J. Acoust. Soc. Am.* ***90****(4)*, 1933-1943.

Humes, L.E., Jesteadt, W. & Lee, L.W. (1992). Modeling the effects of sensorineural hearing loss on auditory perception. In Y. Cazals (Ed.), *Auditory Perception and Physiology*, Oxford: Pergamon Press, pp 617-624.

Humes, L.E., Lee, L. & Jesteadt, W. (1992). Two experiments on the spectral boundary conditions for nonlinear additivity of simultaneous masking. *J. Acoust. Soc. Am.* ***92****(5)*, 2598-2606.

Gorga, M.P., Neely, S.T., Bergman, B.M., Beauchaine, K.L., Kaminski, J.R., Peters, J. & Jesteadt, W. (1993). Otoacoustic emissions from normal-hearing and hearing-impaired subjects: Distortion product responses. *J. Acoust. Soc. Am.* ***93****(4)*, 2050-2060.

Gorga, M.P., Neely, S.T., Bergman, B.M., Beauchaine, K.L., Kaminski, J.R., Peters, J., Schulte, L. & Jesteadt, W. (1993). A comparison of transient-evoked and distortion product otoacoustic emissions in normal-hearing and hearing-impaired subjects. *J. Acoust. Soc. Am.****94****(5)*, 2639-2648.

Neff, D.L., Dethlefs, T.M. & Jesteadt, W. (1993). Informational masking for multicomponent maskers with spectral gaps. *J. Acoust. Soc. Am.* ***94****(6)*, 3112-3126.

Prieve, B.A., Gorga, M.P., Schmidt, A., Neely, S.T., Peters, J., Schulte, L. & Jesteadt, W. (1993). Analysis of transient-evoked otoacoustic emissions in normal-hearing and hearing-impaired ears. *J. Acoust. Soc. Am.* ***93****(6)*, 3308-3319.

Hedrick, M.S., Schulte, L. & Jesteadt, W. (1995). Effect of relative and overall amplitude on perception of voiceless stop consonants by listeners with normal and impaired hearing. *J. Acoust. Soc. Am.****98****(3)*, 1292-1203.

Neff, D.L. & Jesteadt, W. (1996). Intensity discrimination in the presence of random-frequency, multi-component maskers and broadband noise. *J. Acoust. Soc. Am.* ***100***(4), 2289-2298.

Hedrick, M.S. & Jesteadt, W. (1997). Influence of relative amplitude and presentation level on perception of the /p/-/t/ stop consonant contrast by normal and impaired listeners. In W. Jesteadt (Ed.), *Modeling Sensorineural Hearing Loss*. Hillsdale. NJ: Erlbaum, pp. 475-486.

Jesteadt, W. (Editor) (1997). *Modeling Sensorineural Hearing Loss*. Hillsdale, NJ: Erlbaum.

Jesteadt, W., Neff, D.L., Humes, L. & Leek, M.R. (1997). Modeling hearing loss as an additional source of masking. In W. Jesteadt (Ed.), *Modeling Sensorineural Hearing Loss*. Erlbaum, Hillsdale, pp. 289-306.

Dai, H., Neely, S.T., Neff, D.L. & Jesteadt, W. (2001). Temporal integration models: Implications for psychometric functions for detecting level increments. In A.J.M. Houtsma, A. Kohlrausch, V.F. Prijs & R. Schoonhoven (Eds.), *Proceedings of the XIIth International Symposium on Hearing: Physiological and Psychophysical Bases of Auditory Function.* Shaker Publ. BV, Maastricht, The Netherlands, pp. 51-58.

Nizami, L., Reimer, J. & Jesteadt, W. (2001). The intensity-difference limen for Gaussian-enveloped stimuli as a function of level: Tones and broadband noise. *J. Acoust. Soc. Am.* ***110****(5),* 2505-2515.

Nizami, L., Reimer, J. & Jesteadt, W. (2002). The mid-level hump at 2 kHz. *J. Acoust. Soc. Am.* ***112****(2),* 642-653.

Jesteadt, W., Nizami, L. & Schairer, K. (2003). A measure of internal noise based on sample discrimination. *J. Acoust. Soc. Am.* ***114****(4)*, 2147-2157.

Schairer, K., Nizami, L., Reimer, J. & Jesteadt, W. (2003). Effects of peripheral nonlinearity on psychometric functions for forward-masked tones. *J. Acoust. Soc. Am.* ***113****(3)*, 1560-1573.

Jesteadt, W. (2005). The variance of d' estimates obtained in yes-no and two-interval forced choice procedures. *Percept. Psychophys.****67****(1)*, 72-80.

Jesteadt, W., Schairer, K. & Neff, D.L. (2005). Effect of variability in level on forward masking and increment detection. *J. Acoust. Soc. Am.****118****(1)*, 325-337.

Neely, S.T. & Jesteadt, W. (2005). Quadratic-compression model of auditory discrimination and detection. *Acta Acustica* ***91,*** 980-991.

Neely, S.T., Schairer, K. & Jesteadt, W. (2005). Estimates of cochlear compression from measurements of loudness growth. In D. Pressnitzer, A. deCheveigne, S. McAdams & L. Collet (Eds.), *Auditory Signal Processing: Physiology, Psychoacoustics and Models.* Springer, New York, pp. 42-48.

Lutfi, R.A. & Jesteadt, W. (2006). Molecular analysis of the effect of relative tone level on multitone pattern discrimination. *J. Acoust. Soc. Am.* ***120****(6),* 3853-3860.

Leibold, L.J. & Jesteadt, W. (2007). Use of perceptual weights to test a model of loudness summation. *J. Acoust. Soc. Am. Express Letters* ***122(3),*** EL69-EL73.

Leibold, L.J., Tan, H., Khaddam, S. & Jesteadt, W. (2007). Contributions of individual components to the overall loudness of a multi-tone complex. *J. Acoust. Soc. Am.* ***121(5),*** 2822-2831.

Gopalarao, D., Kimberling, W.J., Jesteadt, W., Kelley, P.M., Beauchaine, K.L. & Cohn, E.S. (2008). Is hearing loss due to mutations in the Connexin 26 gene progressive? *Int. J. Audiol.* ***47,*** 11-20.

Keefe, D.H., Gorga, M.P., Jesteadt, W. & Smith, L.M. (2008). Ear asymmetries in middle-ear, cochlear, and brainstem responses in human infants. *J. Acoust. Soc. Am.* ***123,*** 1504-1512. **PMCID:PMC2493569**.

Schairer, K.S., Messersmith, J. & Jesteadt, W. (2008). Use of psychometric-function slopes for forward-masked tones to investigate cochlear nonlinearity. *J. Acoust. Soc. Am.* ***124,*** 2196-2215. **PMCID:PMC2600619**.

Goodman, S.S., Fitzpatrick, D., Ellison, J.C., Jesteadt, W. & Keefe, D.H. (2009). High-frequency click-evoked otoacoustic emissions and behavioral thresholds in humans. *J. Acoust. Soc. Am.* ***125,*** 1014-1032. **PMCID: PMC2659524**.

Jesteadt, W., Schairer, K., Nizami, L., Khaddam, S. & Neely, S.T. (2009). Effects of external noise on increment detection. *J. Acoust. Soc. Am.* (accepted for publication).

Jesteadt, W. & Leibold, L.J. (2009). Loudness in the laboratory part I: Steady state sounds. Springer Science+Business Media, LLC, New York, p. (submitted)

Keefe, D.H., Schairer, K.S., Ellison, J.C., Fitzpatrick, D.F. & Jesteadt, W. (2009). Use of stimulus-frequency otoacoustic emissions to investigate efferent and cochlear contributions to temporal overshoot. *J. Acoust. Soc. Am.* ***125,*** 1595-1604. **PMCID:PMC2677284**

Leibold, L.J., Tan, H. & Jesteadt, W. (2009). Spectral weights for sample discrimination as a function of overall level. *J. Acoust. Soc. Am.* ***125,*** 339-346. **PMCID:PMC2659502**.

Research Support
Ongoing

1 R01 DC006648-05 Jesteadt (PI) 12/01/04-11/30/09
NIH-NIDCD
Decision Processes in Detection and Discrimination
The goal of this research program is to develop a better understanding of fundamental aspects of human hearing by characterizing differences in decision processes for three tasks that use the same basic stimuli in different temporal configurations: intensity discrimination, increment detection, and forward masking.
Role: Principal Investigator

5 R01 DC02251-15 Gorga (PI) 07/01/09-06/30/14
NIH-NIDCD

Cochlear Nonlinearity and Auditory Function in Humans
The goal of this research program is to use noninvasive techniques to gain a better understanding of cochlear nonlinearity in humans with normal hearing and with hearing loss.
Role: Co-Investigator

5 R01 DC003784-10 Keefe (PI) 05/01/04-02/28/10
NIH-NIDCD
Acoustic Responses of the Human Cochlea and Middle Ear
The primary goal of this application is to use a combination of acoustic and behavioral responses to test theories of auditory processing at the mechanical and behavioral levels. A subordinate goal is to relate acoustic responses measured non-invasively in the ear canal to cochlear and middle-ear function.
Role: Co-Investigator

5 P30 DC04662-09 Jesteadt (CC Dir) 09/01/06-08/31/11
NIH-NIDCD
Core Center: Administration
The Core Center meets current and anticipated needs in three areas: 1) laboratory computing; 2) use of transgenic and knockout mouse models; and 3) recruitment of human subjects.
Role: Core Center Director

2 T32 DC00013-30 Jesteadt (Prog. Dir.) 07/01/05-06/30/10
NIH-NIDCD
Research in Human Communication and its Disorders
This grant provides institutional training support for three postdoctoral fellows.
Role: Program Director

Completed:

5 R01 DC04559-05 Jesteadt (PI) 09/01/00-08/31/06 ***(no-cost ext.)***
NIH-NIDCD
Improving Speech Intervention for Deaf Children
The long-range goal of this project is to develop intervention practices that will optimize speech production outcomes for prelingually deafened children, particularly those with cochlear implants.
Role: Principal Investigator

1 P20 RR018788-01 Smith (Prog. Dir.), Walsh (PI) 09/30/03-06/30/08
NIH (Subcontract with UNMC)
The Molecular Biology of Neurosensory Systems--Core A: Administration
The goal is to coordinate administration of the COBRE grant by UNMC, BTNRH and Creighton University.
Role: Subcontract Co-Investigator of Core A

1 R41 DC006607-01 Keefe (PI) 05/01/04-12/31/04 ***(no-cost ext.)***
NIH-STTR
Otoreflectance Assessment of Middle-Ear Functioning
This proposal is aimed at developing wideband acoustic reflectance technology suitable for use in clinical diagnostic and screening applications.
Role: Subcontract Principal Investigator