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Education: University of Illinois, B.S., 1971, Psychology
University of Minnesota, Ph.D, 1975, Psychology

Research and Professional Experience

National Science Foundation Graduate Fellow, Department of Psychology, University of Minnesota, Sept. 1971 - June 1974.

Predocctoral Associate, Center for Research in Human Learning, University of Minnesota, Sept. 1971 - June 1975.

Assistant Professor, Department of Psychology, University of Texas at Austin, July 1975-August 1981.

Associate Professor, Department of Psychology, University of Texas at Austin, Sept. 1981 - August 1988.

Professor, Department of Psychology, University of Texas at Austin, Sept. 1988 - present.

Visiting Lecturer, Instituto de Tecnológico y de Estudios Superiores, Monterrey, Mexico, June 1991, June 1992.

Visiting Research Scientist, Institute of Linguistics, Stockholm University, Jan.-Feb. 2000.

Chairman, Department of Psychology, Sept. 1995 – Aug 1999.

Member, Center for Perceptual Systems, University of Texas at Austin, June 2001- present.

Publications

Till, R.E., Diehl, R.L., & Jenkins, J.J. (1975). Effects of semantic and nonsemantic cued orienting tasks on associative clustering in free recall. Memory & Cognition, 3, 19-23.

Diehl, R.L. (1975). The effect of selective adaptation on the identification of speech sounds. Perception & Psychophysics, 17, 48-52.

Diehl, R.L. (1976). Feature analyzers for the phonetic dimension stop vs. continuant. Perception & Psychophysics, 19, 267-272.

Diehl, R.L., & Rosenberg, D.M. (1977). Acoustic feature analysis in the perception of voicing contrasts. Perception & Psychophysics, 21, 418-422.

Elman, J.L., Diehl, R.L., & Buchwald, S.E. (1977). Perceptual switching in bilinguals. Journal of the Acoustical Society of America, 62, 971-974.

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- Diehl, R.L., Elman, J.L., & McCusker, S.B. (1978). Contrast effects on stop consonant identification. Journal of Experimental Psychology: Human Perception and Performance, 4, 599-609.
- Diehl, R.L., Lang, M., & Parker, E.M. (1980). A further parallel between selective adaptation and contrast. Journal of Experimental Psychology: Human Perception and Performance, 6, 24-44.
- Diehl, R.L., Souther, A.F., & Convis, C.L. (1980). Conditions on rate normalization in speech perception. Perception & Psychophysics, 27, 435-443.
- Diehl, R.L., & Kolodzey, K.F. (1980). The sound system of Spaka. Journal of the Acoustical Society of America, 67, 2112-2114.
- Diehl, R.L., & Kolodzey, K.F. (1981). Spaka: A private language. Language, 57, 406-424.
- Diehl, R.L. (1981). Feature detectors for speech: A critical reappraisal. Psychological Bulletin, 68, 1-18.
- Diehl, R.L., McCusker, S.B., & Chapman, L.S. (1981). Perceiving vowels in isolation and in consonantal context. Journal of the Acoustical Society of America, 69, 239-248.
- Parker, E.M., & Diehl, R.L. (1984). Identifying vowels in CVC syllables: Effects of inserting silence and noise. Perception & Psychophysics, 36, 369-380.
- Diehl, R.L., Kluender, K.R., & Parker, E.M. (1985). Are selective adaptation and contrast effects really distinct? Journal of Experimental Psychology: Human Perception and Performance, 11, 209-220.
- Diehl, R.L., Parker, E.M., & Kluender, K.R. (1985). On the pitfalls of "Ptolemaic" psychology: A reply to Sawusch and Mullennix. Journal of Experimental Psychology: Human Perception and Performance, 11, 251-256.
- Diehl, R.L. (1986). Coproduction and direct perception of phonetic segments: A critique. Journal of Phonetics, 14, 61-66.
- Parker, E.M., Diehl, R.L., & Kluender, K.R. (1986). Trading relations in speech and nonspeech. Perception & Psychophysics, 39, 129-142.
- Diehl, R.L., & Kluender, K.R. (1987). On the categorization of speech sounds. In S. Harnad (ed.), Categorical perception, pp. 226-253. Cambridge: Cambridge University Press.
- Diehl, R.L. (1987). Auditory constraints on speech perception. In M.E.H. Schouten (ed.), The psychophysics of speech perception, pp. 210-219. [NATO ASI Series, Series D, Behavioural and Social Sciences, No. 39]. Dordrecht: Martinus- Nijhoff.
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- Kluender, K.R., Diehl, R.L., & Wright, B.A. (1988). Vowel-length differences before voiced and voiceless consonants: An auditory explanation. Journal of Phonetics, 16, 153-169.
- Diehl, R.L., & Kluender, K.R. (1989). On the objects of speech perception. Ecological Psychology, 1, 121-144.
- Diehl, R.L., & Kluender, K.R. (1989). Reply to commentators. Ecological Psychology, 1, 195-225.
- Diehl, R.L. (1989). Remarks on Stevens' quantal theory of speech. Journal of Phonetics, 17, 71-78.
- Diehl, R.L., & Walsh, M.A. (1989). An auditory basis for the stimulus-length effect in the perception of stops and glides. Journal of the Acoustical Society of America, 85, 2154-2164.
- Blicher, D.L., Diehl, R.L., & Cohen, L.B. (1990). Effects of syllable duration on the perception of the Mandarin Tone 2/Tone 3 distinction: Evidence of auditory enhancement. Journal of Phonetics, 18, 1-13.
- Diehl, R.L., Kluender, K.R., & Walsh, M.A. (1990). Some auditory bases of speech perception and production. In W.A. Ainsworth (ed.), Advances in speech, hearing and language processing (pp. 243-268). London: JAI Press.
- Diehl, R.L., Kluender, K.R., Walsh, M.A., & Parker, E.M. (1991). Auditory enhancement in speech perception and phonology. In R.R. Hoffman & D.S. Palermo (eds.), Cognition and the symbolic processes, Vol 3: Applied and ecological perspectives (pp. 59-76). Hillsdale, NJ: Erlbaum.
- Diehl, R.L., Walsh, M.A., & Kluender, K.R. (1991). On the interpretability of speech/nonspeech comparisons: A reply to Fowler. Journal of the Acoustical Society of America, 89, 2905-2909.
- Walsh, M.A., & Diehl, R.L. (1991). Formant transition duration and amplitude rise time as cues to the stop/glide distinction. Quarterly Journal of Experimental Psychology, 43A, 603-620.
- Diehl, R.L. (1991). Listener-oriented constraints on articulatory organization. Proceedings of the XIIth International Congress of Phonetic Sciences, Aix-en-Provence, France, August 19-24, 1991. Vol. 1, 92-96. (Invited semi-plenary paper).
- Diehl, R.L. (1991). The role of phonetics in the study of language. Phonetica, 48, 120-134.
- Diehl, R.L., & Kingston, J. (1991). Phonetic covariation as auditory enhancement: The case of the [+ voice]/[- voice] distinction. PERILUS: Papers from the Conference on

Current Phonetic Research Paradigms: Implications for Speech Motor Control, Stockholm University, August 13-16, 1991.

- Cohen, L.B., Diehl, R.L., Oakes, L.M., & Loehlin, J.C. (1992). Infant perception of /aba/ versus /apa/: Building a quantitative model of infant categorical discrimination. Developmental Psychology, 28, 261-272.
- Hura, S.L., Lindblom, B., & Diehl, R.L. (1992). On the role of perception in shaping phonological assimilation rules. Language and Speech, 35, 59-72.
- Hura, S.L., Lindblom, B., & Diehl, R.L. (1992). Some evidence that perceptual factors shape assimilations. Chalmers Technical Report 10, Göteborg, Sweden: Chalmers University of Technology, Department of Information Theory.
- Balise, R.R., & Diehl, R.L. (1994). Some distributional facts about fricatives and a perceptual explanation. Phonetica, 51, 99-110.
- Kingston, J., & Diehl, R.L. (1994). Phonetic knowledge. Language, 70, 419-454.
- Hoemeke, K. A., & Diehl, R.L. (1994). Perception of vowel height: The role of F1-F0 distance. Journal of the Acoustical Society of America, 96, 661-674.
- Diehl, R.L., & Molis, M.R. (1995). Effects of fundamental frequency on medial [voice] judgments. Phonetica, 52, 188-195.
- Kingston, J., & Diehl, R.L. (1995). Intermediate properties in the perception of distinctive feature values. In B. Connell & A. Arvaniti (eds.), Phonology and phonetics: Papers in laboratory phonology IV (pp. 7-27). Cambridge: Cambridge University Press.
- Diehl, R.L., Lindblom, B., Hoemeke, K.A., & Fahey, R.P. (1996). On explaining certain male-female differences in the phonetic realization of vowel categories. Journal of Phonetics, 24, 187-208.
- Fahey, R.P., Diehl, R.L., & Traunmüller, H. (1996). Perception of back vowels: Effects of varying F1-F0 distance. Journal of the Acoustical Society of America, 99, 2350-2357.
- Fahey, R.P. & Diehl, R.L. (1996). The missing fundamental in vowel height perception. Perception & Psychophysics, 58, 725-733.
- Castleman, W.A. & Diehl, R.L. (1996). Effects of fundamental frequency on medial and final [voice] judgments. Journal of Phonetics, 24, 383-398.
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- Diehl, R.L. (1998). Locus equations: A partial solution to the problem of consonant place perception. Behavioral and Brain Sciences, 21, 264.
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- Molis, M. R., Diehl, R.L. & Jacks, A. (1998). Phonological boundaries and the spectral center of gravity. Proceedings of the 16th International Congress on Acoustics and the 135th Meeting of the Acoustical Society of America, 2019-2020.
- Wong, P.C.M. & Diehl, R.L. (1998). Effect of spectral distance on vowel perception. Proceedings of the 16th International Congress on Acoustics and the 135th Meeting of the Acoustical Society of America, 2015-2016.
- Redford, M.A. & Diehl, R.L. (1999). The relative perceptual distinctiveness of initial and final consonants in CVC syllables. Journal of the Acoustical Society of America, 106, 1555-1565.
- Hay, J. F. & Diehl, R.L. (1999). Effect of duration, intensity, and F0 alternations on rhythmic grouping. Proceedings of the International Congress of Phonetic Sciences, San Francisco, 1-7 August 1999, 245-248.
- Diehl, R.L. (2000). Searching for an auditory description of vowel categories. Phonetica, 57, 267-274.
- Diehl, R.L., Molis, M.R., & Castleman, W.A. (2001). Adaptive design of sound systems: Some auditory considerations. In K. Johnson & E. Hume (eds.), The Role of Perceptual Phenomena in Phonological Theory (pp. 123-139). San Diego: Academic Press.
- Maddox, W.T., Diehl, R.L., & Molis, M.R. (2001). Generalizing a neuropsychological model of visual categorization to auditory categorization of vowels. In R. Smits, J. Kingston, T.M. Nearey & R. Zondervan (eds.), Proceedings of the Workshop on Speech Recognition as pattern Classification, Nijmegen, July 11-13, 85-90.
- Breier, J.I., Gray, L., Fletcher, J.M., Diehl, R.L., Klaas, P., Foorman, B.R., & Molis, M.R. (2001). Perception of voice and tone onset time continua in children with dyslexia with and without attention deficit/hyperactivity disorder. Journal of Experimental Child Psychology, 80, 245-270.
- Maddox, W.T., Molis, M.R., & Diehl, R.L. (2002). Generalizing a neuropsychological model of visual categorization to auditory categorization of vowels. Perception & Psychophysics, 64, 584-597.
- Geisler, W.S. & Diehl, R.L. (2002). Bayesian natural selection and the evolution of perceptual systems. Philosophical Transactions of the Royal Society of London: Biological Science, 357, 419-448.
- Wong, P.C.M. & Diehl, R.L. (2002). How can the lyrics of a song in a tone language be understood. Psychology of Music, 30, 202-209.
- Wong, P.C.M. & Diehl, R.L. (2003). Perceptual normalization for inter- and intra-talker variation in Cantonese. Journal of Speech, Language, and Hearing Research, 46, 413-421.
- Geisler, W.S. & Diehl, R.L. (2003). A Bayesian approach to the evolution of perceptual and cognitive systems. Cognitive Science, 118, 1-24.

- Papanicolaou, A.C., Simos, P.G., Castillo, E., Breier, J.I., Davis, R.N., & Diehl, R.L. (2003). Differential brain activation patterns during perception of voice and tone onset time series: A MEG study. Neuroimage, 18, 448-459.
- Diehl, R.L., Lindblom, B., & Creeger, C.P. (2003). Increasing realism of auditory representations yields further insights into vowel phonetics. Proceedings of the 15th International Congress of Phonetic Sciences, Vol. 2, pp. 1381-1384. Adelaide: Causal Publications.
- Diehl, R.L., Lotto, A.J., & Holt, L.L. (2004). Speech Perception. Annual Review of Psychology, 55, 06.149-179.
- Diehl, R.L. & Lindblom, B. (2004). Explaining the structure of feature and phoneme inventories. In S. Greenberg, W. Ainsworth, A. Popper, & R. Fay (eds.), Speech Processing in the Auditory System (pp. 101-162). New York: Springer-Verlag.
- Holt, L.L., Lotto, A.J., & Diehl, R.L. (2004). Auditory discontinuities interact with categorization: Implications for speech perception. Journal of the Acoustical Society of America, 116, 1763-1773.
- Wong, P.C.M, Parsons, L.M., Martinez, M., & Diehl, R.L. (2004). The role of the insular cortex in pitch pattern perception: The effect of linguistic contexts. Journal of Neuroscience, 24, 9153-9160.

Book Reviews

- Diehl, R.L. (1980). Review of Speech perception and production: Studies in selective adaptation, by William E. Cooper. Contemporary Psychology, 25, 982-983.
- Diehl, R.L. (1981). Review of Aging and the perception of speech, by M. Bergman. Contemporary Psychology, 26, 401.

Edited Journal Special Issues

- Diehl, R.L. (1991). (Guest Editor). On the relation between phonetics and phonology. Phonetica (Special Issue), 48/2-4/91.
- Diehl, R.L. (1992). (Guest Editor). Articulatory phonology. Phonetica (Special Issue), 49/3-4/92.
- Barry, W., Diehl, R.L., & Kohler, K. (1993) (Guest Editors). Prosody and information structure. Phonetica (Special Issue), 50/3/93.
- Diehl, R.L., Engstrand, O., Kingston, J. & Kohler, K. (2000). (Guest Editors). Emergence and adaptation: Studies in speech communication and language development. Phonetica (Special Issue), 57/2-4/00

Grants

- 1975-1976, BSRG Research Grant, University of Texas (\$2000).
- Summer 1976, URI Research Award, University of Texas (salary).
- 1976-1978, BSRG Research Grant, University of Texas (\$2000).
- 1977-1980, N.I.H., National Institute for Neurological and Communicative Disorders and Stroke, "Selective adaptation to speech sounds," (\$57,800 Direct Costs).
- 1980-1983, N.I.H., National Institute for Neurological and Communicative Disorders and Stroke, "The production and perception of vowels," (\$160,000 Direct Costs).
- 1984-1987, N.I.H., National Institute for Child Health and Human Development, "Perception of rhythm and speech in infants," Leslie Cohen, Co-P.I., (\$214,000 Direct Costs).
- 1987-1988, BSRG Research Grant, University of Texas (\$10,000).
- 1988-1992, N.I.H., National Institute of Neurological and Communicative Disorders and Stroke, "Auditory factors in speech perception," (\$382,000 Direct Costs).
- 1990-1992, Texas Advanced Research Program, "Auditory bases of speech recognition: Applications of a computational model," Björn Lindblom, Co-P.I., (\$40,000).
- 1992-1993, BSRG Research Grant, University of Texas (\$4,990).
- 1992-1995, N.I.H., National Institute on Deafness and Other Communication Disorders, "Auditory factors in speech perception," (\$362,000 Direct Costs).
- 1995-2001, N.I.H., National Institute on Deafness and Other Communication Disorders, "Auditory factors in speech perception," (\$665,000 Direct Costs).
- 2000-2002, N.S.F. Dissertation Research Grant to Randy L. Diehl and Patrick C.M. Wong (\$12,000).
- 2001-2006, N.I.H., National Institute on Deafness and Other Communication Disorders, "Auditory factors in speech production and perception," (\$1,100,000 Direct Costs).
- 2004-2006, N.S.F., "Learning complex auditory categories." Diehl is the P.I. of a subcontract between Carnegie Mellon University and the University of Texas at Austin (\$15,300). Lori L. Holt is the P.I. of the grant.

Awards

- 1976 Psi Chi Teaching Excellence Award
- 1984-1985 President's Associates Teaching Excellence Award
- 1994 Parent's Association Centennial Teaching Fellowship (served in Spring 1995)
- 1999 Outstanding Faculty Award, UT-Austin Division of Continuing Education

Member

Acoustical Society of America, Fellow
Linguistic Society of America
Society for Neuroscience
International Society for Ecological Psychology

Editorships

1986 - 1988, Consulting Editor, Journal of Experimental Psychology: Human Perception and Performance.

1989 - 1999, North American Editor, Phonetica.

2003 – present, Editorial Board, Phonetica.

1995 - 2000, Consulting Editor, Perception & Psychophysics

2002 - present, Associate Editor, Journal of the Acoustical Society of America