

Curriculum Vitae

Michael F. Dorman

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Academic History:

University of Washington, B.S., Psychology, 1967

Hollins College, M.A., Psychology, 1968

University of Connecticut, Ph. D., Experimental Child and Developmental Psychology, 1971
(Minor area: Linguistics)

Employment:

Lehman College of the City University of New York; Assistant Professor, Department of Speech and Interdepartmental Program in Linguistics; 1971-1976

The Doctoral Faculty of the City University of New York; Speech and Hearing Science, 1975-1976

Arizona State University; Associate Professor, Department of Speech and Hearing Science, 1976-1982

Arizona State University; Professor, Department of Speech and Hearing Science and Interdisciplinary Program in Linguistics Studies; 1982-present

University of Utah School of Medicine; Adjunct Professor, Department of Surgery, Division of Otolaryngology/Head and Neck Surgery; 1990-present

Administrative Experience:

Arizona State University, Director, Program in Speech and Hearing Science, 1977-1979.

Arizona State University, Chairman, Department of Speech and Hearing Science, 1979-1983.

Major Grant Support:

NIH award (1973-1977) Program Project Award to Haskins Laboratories: Studies on the nature of speech, instrumentation and practical applications.

NIH award (1978-1980): Speech perception by articulation disordered children (\$41,673).

NIH award (1981-1984): Speech perception by hearing-impaired adults (\$144,883).

NIH award (1984-1989): Speech perception by hearing-impaired adults (\$252,000).

NIH award (1989-1992): Auditory function and speech perception with cochlear implants (\$246,246).

NIH award (1993-1998): Auditory function and speech perception with cochlear implants (\$576,350).

NIH award (1999-2004): Auditory function and speech perception with cochlear implants (\$975,232).

NIH award (2004-2009): Central auditory development in hearing-impaired infants (\$894,769).
Co-investigator with A. Sharma.

NIH award (2005-2010). Auditory function and speech perception with cochlear implants (\$1,200,000).

Honors:

Fellow of the Acoustical Society of America

Honorary Member British Cochlear Implant Group

Publications:

1970:

Webster, R.L. and Dorman, M.F. Decreases in stuttering frequency as a function of continuous and contingent forms of auditory masking. Journal of Speech and Hearing Research, 1970, 13, 82-86.

1971:

Webster, R.L. and Dorman, M.F. Changes in reliance on auditory feedback cues as a function of oral practice. Journal of Speech and Hearing Research, 1971, 14, 307-311.

1974:

Dorman, M.F. and Hoffman, R. Short-term habituation of the auditory evoked response in infants. Journal of Speech and Hearing Research, 1974, 16, 637-642.

Dorman, M.F. and Geffner, D. Hemispheric specialization for speech perception in six-year-old black and white children from low and middle socioeconomic classes. Cortex, 1974,2, 141-146.

Dorman, M.F. Auditory evoked potential correlates of speech sound discrimination. Perception and Psychophysics, 1974,15, 215-220.

Dorman, M.F. Discrimination of intensity differences on formant transitions in and out of syllable context. Perception and Psychophysics, 1974, 16, 84-86.

1975:

Dorman, M.F. and Porter, R.J. Hemispheric specialization for speech perception in stutterers. Cortex, 1975, 2, 181-186.

Raphael, L.J., Dorman, M.F., Freeman, F.J. and Tobin, C. Vowel and nasal duration as cues to voicing in word-final stop consonants: Spectrographic and perceptual studies. Journal of Speech and Hearing Research, 18, 389-401.

Dorman, M.F. Cutting, J. and Raphael, L.J. Perception of temporal order in vowel sequences with and without formant transitions. Journal of Experimental Psychology: Human Perception and Performance, 1975, 3, 121-129.

1976:

Geffner, D. and Dorman, M.F. Hemispheric specialization for speech perception in four-year-old children from low and middle socio-economic class backgrounds. Cortex, 1976,7, 71-73.

Cutting, J. and Dorman, M.F. Discrimination of intensity differences carried on formant transitions varying in extent and duration. Perception and Psychophysics, 1976, 20, 101-107.

1977:

Dorman, M.F., Kewley-Port, D., Brady, S. and Turvey, M. Vowel recognition: Inferences from studies of forward and backward masking. Quarterly Journal of Experimental Psychology, 1977, 29, 483-497.

Miller, C., Morse, P. and Dorman, M. Memory for burst cues in infant speech discrimination. Quarterly Journal of Experimental Psychology, 1977, 29, 533-545.

Borden, G., Dorman, M.F., Freeman, F. and Raphael, L.J. Delayed auditory feedback and phonation: An electromyographic study. Journal of Phonetics, 1977, 5, 1-8.

Dorman, M.F., Studdert-Kennedy, M. and Raphael, L.J. Stop-consonant recognition: Release bursts and formant transitions as functionally equivalent, context-sensitive cues. Perception and Psychophysics, 1977, 22, 109-122.

1978:

Rosenblum, D. and Dorman, M.F. Hemispheric specialization for speech perception in language deficient kindergarden children. Brain and Language, 1978, 6, 378-379.

1979:

Dorman, M.F. On the identification of sine-wave analogues of CV syllables. Proceedings of the Ninth International Congress of Phonetic Science, 1979, 2, 453-460.

Dorman, M.F., Liberman, A.M. and Raphael, L.J. Some experiments on the sound of silence in phonetic perception. Journal of the Acoustical Society of America, 1979, 65, 1518-1532.

1980:

Dorman, M.F. and Raphael, L.J. The distribution of acoustic cues for stop consonant place of articulation in VCV syllables. Journal of the Acoustical Society of America, 1980, 67, 1333-1335.

Turek, S., Dorman, M. F., Franks, J. and Summerfield, A.Q. The identification of synthetic /bdg/ by hearing-impaired listeners under monotic and dichotic formant presentation. Journal of the Acoustical Society of America, 1980, 67, 1031-1040.

Raphael, L.J., Dorman, M.F. and Liberman, A.M. On defining the vowel duration that cues voicing in final position. Language and Speech, 1980, 23, 297-307.

Raphael, L.J., Dorman, M.F. and Geffner, D. Durational differences of vowels before voiced and voiceless syllable-final consonants in four and five year-old English speaking children. Journal of Phonetics, 1980, 8, 335-341.

Dorman, M.F. and Raphael, L.J. Silence as a cue to the perception of syllable-initial and syllable-final stop consonants. Journal of Phonetics, 1980, 8, 269-275.

Dorman, M.F., Raphael, L.J., and Isenberg, D. Acoustic cues for a fricative-affricate contrast in word-final position. Journal of Phonetics, 1980, 8, 397-405.

1981:

Parady, S. Dorman, M.F., Whaley, P. and Raphael, L.J. Identification and discrimination of a synthesized voicing contrast by normal and sensorineural hearing-impaired children. Journal of the Acoustical Society of America, 1981, 69, 783-790.

Dorman, M.F. and Dougherty, K. Shifts in the location of phonetic boundaries with changes in signal presentation level. Journal of the Acoustical Society of America, 69, 1439-1440.

Summerfield, A.Q., Bailey, P., Seton, J. and Dorman, M.F. Fricative envelope parameters and silent intervals in distinguishing "slit" and "split". Phonetica, 1981, 38, 181-192.

1982:

Hannley, M. T. and Dorman, M.F. Some observations on auditory function and stuttering. Journal of Fluency Disorders, 1982, 7, 93-108.

1983:

Hannley, M.T. and Dorman, M.F. Susceptibility to spread of masking in listeners with sensorineural hearing impairment. Journal of the Acoustical Society of America, 1983, 74, 40-51.

1984:

Johnson, D., Whaley, P. and Dorman, M.F. The processing of cues for stop consonant voicing by young hearing-impaired listeners. Journal of Speech and Hearing Research, 1984, 27, 112-118.

1985:

Dorman, M.F., Marton, K., Hannley, M.T. and Lindholm, J.M. Phonetic identification by elderly normal and hearing-impaired listeners. Journal of the Acoustical Society of America, 1985, 77, 664-670.

Dorman, M.F. and Hannley, M.T. (1985) Identification of speech and speech-like signals by hearing-impaired listeners. In Speech Science, R. Danaloff (Ed.), College Hill; San Diego.

Dorman, M.F., Lindholm, J.M. and Hannley, M.T. The influence of the first formant in the recognition of voiced stop consonants by hearing-impaired listeners. Journal of Speech and

Hearing Research, 1985, 28, 377-380.

Mann, V.A., Sharlin, H. M., and Dorman, M.F. Children's perception of the relation between articulation and perceptual development. Journal of Experimental Child Psychology, 1985, 39, 252-264.

Raphael, L.J. and Dorman, M.F. The role of formant transitions in the perception of stress in disyllables. In L.J. Raphael (Ed.) Essays in Honor of Arthur Bronstein (Lehman College Press, Bronx, N.Y.).

1986:

Dorman, M.F. Temporal resolution, frequency selectivity and the identification of speech by hearing-impaired listeners. The Hearing Journal, 1986, March, 24-26.

Dorman, M.F., Cedar, I., Hannley, M.T., Lindholm, J.M. and Leek, M. The role of the acoustic reflex in maintaining vowel intelligibility at high sound pressure levels. Journal of Speech and Hearing Research, 29, 420-424.

Leek, M.R., Dorman, M.F. and Summerfield, Q. The role of spectral contrast in the identification of vowels by normal hearing and hearing impaired listeners. Journal of the Acoustical Society of America, 81, 148-154.

1987:

Dorman, M.F., Hannley, M.T., Lindholm, J.M. and Leek, M.R. Vowel intelligibility in the absence of the acoustic reflex: performance-intensity characteristics. Journal of the Acoustical Society of America, 81, 562-564.

Dubno, J. and Dorman, M.F. Effects of spectral flattening on vowel identification. Journal of the Acoustical Society of America, 82, 1503-1511.

1988:

Lindholm, J.M., Dorman, M. F., Taylor, B. and Hannley, M. Stimulus factors influencing the identification of voiced stop consonants by normal hearing and hearing impaired listeners. Journal of the Acoustical Society of America, 83, 1608-1614.

Dorman, M.F., Hannley, M., McCandless, G. and Smith, L. Acoustic/phonetic categorization with the Symbion multichannel cochlear implant. Journal of the Acoustical Society of America, 84, 501-510.

McCandless, G., Dankowski, K. and Dorman, M. F. Results for patients fitted with a multichannel, monopolar, analogue cochlear implant. Hearing Instruments, **39**, 28-30.

1989:

Dorman, M. F., Dankowski, K., Smith, L. and McCandless, G. Identification of synthetic vowels by patients using the Symbion multichannel cochlear implant. Ear and Hearing, **10**, 40 - 43.

Dorman, M. F., Dankowski, K., Smith, L. and McCandless, G. Word recognition by 50 patients fitted with the Symbion multichannel cochlear implant. Ear and Hearing, **10**, 44 - 49.

Dorman, M. F., Dankowski, K., McCandless, G. and Smith, L. Consonant recognition as a function of the number of channels of stimulation by patients who use the Symbion cochlear implant. Ear and Hearing, **10**, 288 - 291.

1990:

Dorman, M. F. Smith, L, Dankowski, K., and McCandless, G. Pitch scaling and speech understanding by patients who use the Ineraid cochlear implant. Ear and Hearing, **11**, 310-315.

Dorman, M. F., Dankowski, K., McCandless, G. and Smith, L. Longitudinal changes in speech recognition by patients who use the Ineraid cochlear implant. Ear and Hearing, **11**, 455- 459.

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1991:

Dorman, M., Dove, H., Parkin, J., Zacharchuk, S. and Dankowski, K. Telephone use by patients fitted with the Ineraid cochlear implant. Ear and Hearing, **12**, 368-369.

Dorman, M. F., Dankowski, K., McCandless, G. and Smith, L. Vowel and consonant recognition with the aid of a multichannel cochlear implant. Quarterly Journal of Experimental Psychology, **43A**, 585-601.

Dorman, M., Basham, K., Mc Candless, G. and Dove, H. Speech understanding and music appreciation with the Ineraid cochlear implant. The Hearing Journal, June, 34-37.

Leek, M., Brown, M. and Dorman, M. Informational masking and auditory attention. Perception and Psychophysics, **50** (3), 205-214.

1992:

Dorman, M., Smith L Dandowski K., McCandless, G. and Parkin J. Long-term measures of electrode impedance and auditory thresholds for the Ineraid cochlear implant. Journal of Speech and Hearing Research, 35, 1126-1130.

Doman, M., Smith, M., Smith, L. and Parkin J. 1992 The coding of vowel identity by patients who use the Ineraid cochlear implant. Journal of the Acoustical Society of America, 92, 3428-3431.

1993:

Dorman, M., Smith,L. and Parkin, J. Loudness balance between acoustic and electric stimulation with a mulitchannel cochlear implant. Ear and Hearing, 14, 290-292.

Dorman, M. Speech recognition by adults. In R. Tyler (Ed.), Audiological foundations of cochlear implants. Singular Press: San Diego.

1994:

Dorman, M., Smith, L., Smith, M. and Parkin, J. The pitch of electrically presented sinusoids. Journal of the Acoustical Society of America, 95, 1677-79.

Dorman M. Mechanisms of formant frequency resolution with the Ineraid cochlear implant. In Hochmair-Desoyer I and Hochmair E, Eds. Advances in Cochlear Implants. Mantz: International Interscience Seminars, 302-305.

1995:

Dorman, M. Test of the use of amplitude envelope cues to consonant identify by patients who use the Ineraid cochlear implant. Annals of Otolology, Rhinology, and Laryngology, Supplement 166, 223-224.

Loizou, P., Dorman, M. and Spanias, A. Automatic recognition of syllable-final nasals preceded by /ε/. Journal of the Acoustical Society of America, 97, 1925-1928.

1996:

Dorman, M., Smith, L., Smith, M., and Parkin, J. Frequency discrimination and speech recognition by patients who use the Ineraid and CIS cochlear-implant signal processors. Journal of the Acousical Society of America, 99,1174-1185.

Dorman, M. and Loizou, P. Improving consonant intelligibility for Ineraid patients fit with continuous interleaved sampling (CIS) processors by enhancing contrast among channel outputs. Ear and Hearing, *17* (4), 308-313.

Dorman, M. and Loizou, P. Relative spectral change and formant transitions as cues to labial and alveolar place of articulation. Journal of the Acoustical Society of America, *100* (6), 3825-3830.

1997:

Dorman, M. F., Loizou, P., and Rainey, D. Speech intelligibility as a function of the number of channels of stimulation for signal processors using sine-wave and noise-band outputs. J. Acoust. Soc. Am. *102*(4), 2403-2411.

Dorman, M. F., and Loizou, P. Changes in speech intelligibility as a function of time and signal processing strategy for an Ineraid patient fitted with continuous interleaved sampling processors. Ear and Hearing, *18*, 147-155.

Dorman, M. F., Loizou, P. and Rainey, D. Simulating the effect of cochlear-implant electrode insertion depth on speech understanding. Journal of the Acoustical Society of America, *102*(5), 2993-2996.

Dorman, M. F. and Loizou, P. Speech intelligibility as a function of the number of channels of stimulation for normal-hearing listeners and for patients with cochlear implants. American Journal of Otology, *18*(6), 113-114.

Dorman, M.F. and Loizou, P. Mechanisms of vowel recognition for Ineraid patients fit with continuous interleaved sampling processors. Journal of the Acoustical Society of America, *102* (1), 581-587.

1998:

Loizou, P., Dorman, M. and Powell, V. The recognition of vowels produced by men, women, boys and girls by cochlear implant patients using a six-channel CIS processor. Journal of the Acoustical Society of America, *103*(2), 1141-1149.

Dorman, M. F., and Loizou, P. The identification of consonants and vowels by cochlear-implant patients using a 6-channel CIS processor and by normal-hearing subjects using simulations of processors with 2-9 channels. Ear & Hearing, *19*(2), 162-166.

Dorman, M., Loizou, P. and Fitzke, J. The identification of speech in noise by cochlear-implant patients and normal-hearing listeners using 6-channel signal processors. Ear and Hearing, *19*(6), 481-484.

Sammeth, C., Dorman, M. and Sterns, C. The role of CV ratio and audibility in the intelligibility of voiceless stop consonants by hearing-impaired listeners. Journal of Speech, Language, and Hearing Research, 42, 42-55.

Dorman, M., Loizou, P., Fitzke, J. and Tu, Z. The recognition of sentences in noise by normal-hearing listeners using simulations of cochlear-implant signal processors with 6-20 channels. Journal of the Acoustical Society of America, 104 (6), 3583-3585

Dorman, M. F. *Speech Perception*, in Cochlear Implants, A Handbook. B. Tucker (Ed.) McFarland and Company, pp. 5-28.

Sharma, A. and Dorman, M.F. Exploration of the perceptual magnet effect using the mismatch negativity auditory evoked potential. Journal of the Acoustical Society of America, 104 (1), 511-517.

1999:

Loizou, P., Dorman, M. and Tu, Z. On the number of channels needed to understand speech. Journal of the Acoustical Society of America, 106 (4), 2097-2103.

Dorman, M.F. *Speech Perception by Adults*, in Cochlear Implants, S. Waltzman and N. Cohen (Eds.). Thieme Medical Publishers, pp. 317-329.

Sharma, A. and Dorman, M. F. Cortical evoked potential correlates of the phonetic perception of VOT. Journal of the Acoustical Society of America, 106,2, 1078-1083.

2000:

Loizou, P., Dorman, M. and Fitzke, J. The Effect of Reduced Dynamic Range on Speech Understanding: Implications for Patients with Cochlear Implants. Ear and Hearing, 21(1), 25-31.

Sharma, A. and Dorman, M.. Neurophysiologic correlates of cross language phonetic perception. Journal of the Acoustical Society of America, 108 (6), 3030-3035.

P. Loizou, M. Dorman, O. Poroy and T. Spahr. Speech recognition by normal-hearing and cochlear implant listeners as a function of intensity resolution. Journal of Acoustical Society of America , 108(5), 2377-2388.

P. Loizou, O. Poroy and M. Dorman. The effect of parametric variations of cochlear implant processors on speech understanding. Journal of Acoustical Society of America , 108(2), 790-802.

Dorman, M., Loizou, P. Fitzke, J. and Tu, Z. The recognition of NU-6 words by cochlear-implant patients and by normal-hearing subjects listening to NU-6 words processed in the manner of CIS and SPEAK strategies. Annals of Otology, Rhinology and Laryngology, 109

(12,2), 64-66.

Loizou, P., Dorman, M., Tu, Z. and Fitzke, J. The recognition of sentences in noise by normal-hearing listeners using simulations of SPEAK-type cochlear-implant signal-processors. Annals of Otology, Rhinology and Laryngology, 109 (12,2), 67-68.

Dorman, M., Loizou, P., Kemp, L. and Kirk, K. Word recognition by children listening to speech processed into a small number of channels: Data from normal-hearing children and children with cochlear implants. Ear and Hearing, 21 (6), 590-596.

Sharma, A., Marsh, C. and Dorman, M. Relationship between N1 evoked potential morphology and the perception of voicing. Journal of Acoustical Society of America, 108 (6), 3030-3035.

Zraick, R., Liss, J., Dorman, M., Case, J., LaPointe, L. and Beals, S. Multidimensional scaling of nasal voice quality. Journal of Speech, Language and Hearing Research, 43 (4), 989-996.

2002

Sharma, A., Dorman, M., Spahr, A. and Todd, N. W. Early cochlear implantation allows for normal development of cortical auditory pathways. Annals of Otology, Rhinology and Laryngology, Vol 111, 5(2), 38-41.

Dorman, M.F., Loizou, P., Spahr, A. and Maloff, E. A comparison of the speech understanding provided by acoustic models of fixed-channel and channel-picking signal processors for cochlear implants. Journal of Speech, Language and Hearing Research, 45 (4), 783-788.

Sharma, A., Dorman, M. F. and Spahr, A. Rapid development of cortical auditory evoked potentials after early cochlear implantation. NeuroReport, 13 (10), 1-4.

Kasturi, K., Loizou, P., Dorman, M.F. and Spahr, T. The intelligibility of speech with 'holes' in the spectrum. Journal of the Acoustical Society of America, 112(3), 1102-1111.

Sharma, A., Dorman, M. F. and Spahr, A. A sensitive period for the development of the central auditory system in children with cochlear implants. Ear and Hearing, 23(6), 532-539.

2003:

Dorman, M. F., and Ketten, D. (2003). Adaptation by a cochlear-implant patient to upward shifts in the frequency representation of speech. Ear and Hearing, 24, 457-460.

Dorman, M. F., Loizou, P. C., Spahr, A. J., and Maloff, E. (2002). Factors that allow a high level of speech understanding by patients fit with cochlear implants. American Journal of Audiology, 11, 119-123.

Loizou, P., Mani, A. and Dorman, M. F. Dichotic speech recognition in noise using reduced spectral cues. Journal of the Acoustical Society of America, 114 (1), 475-483.

Qian, H., P.C. Loizou and Dorman, M. A phone-assistive device based on Bluetooth technology for cochlear implant users. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 11(3), 282-288.

2004:

Dorman, M. F. and Dahlstrom, L. Speech understanding in cochlear-implant patients with different left- and right-ear electrode arrays. Ear and Hearing, 25(2), 191-194.

Sharma, A., Tobey, E., Dorman, M., Bharadwaj, S., Martin, K., Gilley, P., Kunkei, F. Central auditory maturation and babbling development in infants with cochlear implants. Archives of Otolaryngology – Head and Neck Surgery. 130 (5), 511-517.

Spahr, A. and Dorman M. Performance of patients fit with Advanced Bionics CII and Nucleus 3G cochlear implant devices. Archives of Otolaryngology – Head and Neck Surgery. 130 (5), 624-628.

Dorman, M. F. and Wilson, B. The design and function of cochlear implants. American Scientist, 92 (Sept-Oct), 436-445.

2005:

Sharma, A., Dorman, M. and Kral, A. The influence of a sensitive period of central auditory development in children with unilateral and bilateral cochlear implants. Hearing Research, 203, 134-143.

Gilley, P., Sharma, A., Dorman, M. and Martin, K. Developmental changes in refractoriness of the cortical auditory evoked potential. Clinical Neurophysiology, 116, 648-657.

Sharma, A. and Dorman, M. The clinical use of P1 latency as a bio-marker for assessment of central auditory development in children with hearing impairment. Audiology Today, May/June, 18-19.

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Sharma, A., Martin, K., Roland, P., Bauer, P., Sweeny, M., Gilley, P. and Dorman M. A new tool for assessment of central auditory development in hearing-impaired and cochlear-implanted children. Journal of the American Academy of Audiology.

Dorman, M., Spahr, A., Loizou, P., Dana, C. and Schmidt, J. Acoustic Simulations of Combined Electric and Acoustic Hearing (EAS). Ear and Hearing.