

CURRICULUM VITAE

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Education:

School	Year	Degree	Location
Yale University	1965	B.A.	New Haven, Connecticut
Harvard Medical School	1970	M.D.	Cambridge, Massachusetts

Postdoctoral Training:

Internship and Residencies:

1970-1971	Intern in Medicine, Harvard Medical Unit, Boston City Hospital
1971-1972	Resident in Neurology, Massachusetts General Hospital
1974-1976	Resident in Neurology, Massachusetts General Hospital

Research Fellowships:

1966-1970	Research Assistant in Otolaryngology, Massachusetts Eye and Ear Infirmary
1972-1974	Clinical Associate, Branch of Electroencephalography and Clinical Neurophysiology, NINCDS, Bethesda, MD
1976-1977	Clinical and Research Fellow in Neurology, Mass. General Hospital

Licensure and Certification:

1971	Massachusetts License Registration
1973	New York License Registration
2012	Israel License Registration
1978	American Board of Psychiatry and Neurology, Certificate in Adult Neurology

Academic Appointments:

1977-1984	Instructor in Neurology, Harvard Medical School
1984-2012	Assistant Professor of Neurology, Harvard Medical School

Hospital Appointments:

1976-present	Research Associate in Otolaryngology, Massachusetts Eye and Ear Infirmary
1977-1982	Clinical Assistant in Neurology, Massachusetts General Hospital
1979-1981	Chief of Neurology, U.S. Public Health Service Hospital, Brighton, MA
1981-1982	Consultant in Neurology, Brighton Marine Public Health Center, Brighton, MA
1982-1983	Assistant in Neurology, Neurology Service, Massachusetts General Hospital
1982-1994	Neurologist, Winthrop Community Hospital, Winthrop, MA
1990-1994	Neurologist, Whidden Memorial Hospital, Everett, MA
1983-2012	Assistant Neurologist, Neurology Service Massachusetts General Hospital
1987-2012	Assistant in Otolaryngology (Neurology), Active Staff, Massachusetts Eye and Ear Infirmary
1987-2012	Clinical Associate in Neurology (Otolaryngology), Active Staff, Massachusetts Eye and Ear Infirmary
1995-2012	Director of Intraoperative Monitoring and AER, Massachusetts Eye and Ear Infirmary
1995-1996	Associate Director of Intraoperative Neurophysiology, Department of Anesthesia, Massachusetts General Hospital
2012-2013	Mitnadaiv, Department of Neurology, Lady Wolfson Medical Center
2012-present	Mitnadaiv, Department of Otolaryngology, Tel Aviv Medical Center

Other Professional Positions and Major Visiting Appointments:

1981	Visiting Lecturer in Neurology, Hebrew University Medical School, Jerusalem, Israel
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Awards and Honors:

1963	Sigma Xi
1964	Phi Beta Kappa
1965	Summa Cum Laude with highest Honors in Mathematics

Professional Societies:

1981-1992	International Evoked Response Audiometry Study Group
1987-present	International Tinnitus Study Group
1990-present	Association for Research in Otolaryngology

Major Research Interests:

1. Tinnitus
2. Auditory evoked potentials and auditory perception
3. Physiology of hearing and hearing loss

Teaching Experience:

1975-1976	Lectures in Clinical Neurology for neurology clinical clerks, Massachusetts General Hospital
1979-1981	Medical grand rounds on topics in Neurology, U.S. Public Health Hospital

1987-1992	Lectures in Auditory Physiology, Elec. Engin. and Comp. Sci., MIT
1988-2011	Lectures in Residents' Basic Science Course, Mass. Eye & Ear Infirmary
1992-2011	Lectures in Auditory Neurology, Speech & Hearing Sciences Graduate Program of HST (Harvard-MIT)

Principal Clinical and Hospital Service Responsibilities:

1976-1989	Member, Neurology Clinic, Massachusetts General Hospital
1976-1979	Neurologist, Bunker Hill Health Center of the Massachusetts General Hospital
1984-1985	Neurology Visit, Private Service, Massachusetts General Hospital
1989-1992	Co-chairman, Oto-neurologist Search Committee, Mass. Eye & Ear Infirmary
1992-2002	Tracking Committee, Speech and Hearing Science Graduate Program

Other:

2001 – 2009	Scientific Advisory Committee of American Tinnitus Association
2008	Guest Associate Editor American Journal of Audiology
2007 – present	Associate Editor Audiology & Neurotology

Research Funding:

Past Funding

2009-2011	Identifying substrates for the affective aspects of tinnitus using MRI
	Tinnitus Research Consortium
	Investigator
	To test for abnormal functional connectivity between brain areas in people with tinnitus
2008-2010	Otoacoustic emissions in people with tinnitus
	Tinnitus Research Consortium
	Investigator
	To test for outer hair cell malfunction in people with tinnitus by measuring distortion product otoacoustic emissions.
2008-2010	Neurophysiology of Hyperacusis
	American Tinnitus Association
	Investigator
	To test whether neuronal activity contributing to auditory evoked potentials and magnetic fields is abnormally elevated in people with hyperacusis, a condition that often co-occurs with tinnitus.
2006-2008	Tinnitus Center for Patient Care and Research
	Private Gifts
	PI (\$1,000,000)
	Use of clinical observations, psychophysical, functional imaging and other physiological techniques to understand tinnitus.
2006-2008	Imaging Human Tinnitus
	American Tinnitus Association
	Investigator
	To identify tinnitus-related abnormalities within the human central auditory system using fMRI and investigate their neural bases
2005-2006	Active Suppression of Pulsatile Tinnitus: Step 1 - Ear Canal Measurement
	American Tinnitus Association
	PI (\$75,000)
	To optimize the detection of the sound responsible for objective pulsatile tinnitus, as a preliminary step before developing noise cancellation techniques to suppress pulsatile tinnitus
2000-2003	fMRI study of tinnitus - somatosensory interactions

Royal National Institute on Deafness

PI (\$212,000)

To investigate the neural basis of tinnitus - somatosensory interactions as revealed by fMRI

1996-1998 Human tinnitus studied with functional MRI
NIDCD/RFA
PI (\$200,000)
Using fMRI to investigate the neural basis for tinnitus.

1981-2002 Basic & Clinical Studies of the Auditory System
NIDCD/Program Project
Site PI (\$708,000)
Using brainstem auditory evoked potentials and imaging to study human auditory processing

1982-1984 Right-left asymmetries in the human brainstem: auditory evoked potentials
NIDCD/RO1
PI (\$200,000)
Characterizing the properties of the human brainstem right-left asymmetries: as detected by brainstem auditory evoked potentials

1989-1991 Brainstem Lesions and Click Lateralization in Patients with Multiple Sclerosis
US-Israel Binational Science Foundation Grants 89-00460 and 89-00447
Site PI (\$20,000)
Correlating sound lateralization ability and multiple sclerosis lesion location to develop models of mechanisms of human sound localization

Current Funding

2009-2011 Networks of Brain Activity in People with Tinnitus
NIH/NIDCD (RC1 DC010645)
Investigator
Using functional magnetic resonance imaging to assess the degree of coupling between auditory brain areas and brain areas mediating affect. To test whether the degree of such coupling is related to the degree of tinnitus distress.

2010-2011 Tinnitus Center for Patient Care and Research
Private Gifts
PI (\$10,000)
Use of clinical observations, psychophysical, functional imaging and other physiological techniques to understand tinnitus.

Invited Presentations and Courses:

Regional

2000 Neurology of Tinnitus. Invited Speaker. Neurology, Neurosurgery and Otolaryngology Combined Grand Rounds. Toledo, OH (Medical College of Ohio)

National

2001 9th Annual Management of The Tinnitus Patient Conference. Keynote Speaker
Iowa City, (Univ. Iowa)

2001 Unraveling the tinnitus puzzle: Progress in Understanding unilateral tinnitus. Invited Speaker. Buffalo, (Univ. Buffalo)

2003 The Physiology of Human Tinnitus. Invited Speaker. Midwinter Research Meeting of the Association for Research in Otolaryngology. Daytona

2011 The link between tinnitus and myofascial trigger points. Keynote Speaker. National Association of Myofascial Trigger Point Therapists. Waltham

International

2001 Tinnitus and the Somatosensory System. Invited Speaker
London, UK (Royal National Institute for the Deaf)

2005 Pharmacology of tinnitus. Invited Speaker
Niagara Falls, (International Symposium on Pharmacologic Strategies for Prevention and Treatment of Hearing Loss and Tinnitus)

2008 All that rings is not from the ear: tinnitus and the somatosensory system. Keynote Speaker
Tel Aviv, (Israeli Society of Auditory Research)

2010 A tinnitus progress report - 23 years of learning on the job. Keynote Speaker
Seoul, Korea (Second Annual Kyung Hee Tinnitus Seminar)

2010 The Neurology of Tinnitus. ENT Grand Rounds
Seoul, Korea (Asan Medical Center)

2010 Mechanisms by which tinnitus can be quieted. ENT Grand Rounds
Tel Aviv (Ichilov Hospital)

2011 Implications of the latest dorsal cochlear nucleus model for blast injury tinnitus. International State-of-the-Science Meeting on Blast-Related Tinnitus (Department of Defense and the Department of Veterans Affairs), Washington, DC

Bibliography

Original Reports:

1. Ebersole JS, Levine RA. Abnormal neuronal responses during evolution of a penicillin epileptic focus in cat visual cortex. *J Neurophysiol.* 1975; 38:250-266.
2. Kiang NYS, Liberman MC, Levine RA. Auditory-nerve activity in cats exposed to ototoxic drugs and high-intensity sounds. *Ann Otol Rhinol Laryngol.* 1976; 85:752-768. *Trans Amer Otol Soc.* 1976; LXIV:79-95.
3. Hausler R, Levine RA. Brainstem auditory evoked potentials are related to interaural time discrimination in patients with multiple sclerosis. *Brain Res.* 1980; 191:589-594.
4. Levine RA. Binaural interaction in brainstem potentials of human subjects. *Ann Neurol.* 1981; 9:384-393.
5. Levine RA. Auditory evoked potentials: engineering considerations. *Proceedings of the Fourth Annual Conference of IEEE; Engineering in Medicine and Biology Society,* 1982; 85-88.
6. Levine RA, McGaffigan PM. Right-left asymmetries in the human brainstem: auditory evoked potentials. *Electroencephalogr Clin Neurophysiol.* 1983; 55:532-537.
7. Richter EA, Norris BE, Fullerton BC, Levine RA, Kiang NYS. Is there a medial nucleus of the trapezoid body in humans? *Am J Anat.* 1983; 168:157-166.
8. Kiang NYS, Fullerton BC, Richter EA, Levine RA, Norris BE. Artificial stimulation of the auditory system. *Adv in Aud.* 1984; 1:6-17.
9. Levine RA, Ojemann RG, Montgomery WW, McGaffigan PM. Monitoring auditory evoked potentials during acoustic neuroma surgery: insights into the mechanism of the hearing loss. *Ann Otol Rhinol Laryngol.* 1984; 93:116-123.
10. Ojemann RG, Levine RA, Montgomery WM, McGaffigan PM. Use of intraoperative auditory evoked potentials to preserve hearing in unilateral acoustic neuroma removal. *J Neurosurg.* 1984; 61:938-948.
11. Furst M, Levine RA, McGaffigan PM. Click lateralization is related to the b component of the dichotic brainstem auditory evoked potentials of human subjects. *J Acoust Soc Am.* 1985; 78:1644-1651.
12. Fullerton BC, Levine RA, Hosford-Dunn HL, Kiang, NYS. Comparison of cat and human brainstem auditory evoked potentials. *Electroencephalogr Clin Neurophysiol.* 1987; 66:547-570.
13. Nadol, JB, Levine RA, Martuza RL, Ojemann RG, Montgomery WW, Sandoval PK. Preservation of Hearing in Surgical Removal of Acoustic Neuromas of the Internal Auditory Canal and Cerebellar Pontine Angle. *Laryngoscope* 1987; 11:1287-1294.

14. Levine, RA, Liederman, J, Riley P. The Brainstem Auditory Evoked Potential Asymmetry is Replicable and Reliable. *Neuropsychologia*. 1988; 24:603-614.
15. Levine, RA, Davis, PJ. Origin of the Click-Evoked Binaural Interaction Potential, b, of Humans. *Hearing Research*. 1991; 57:121-128.
16. Bhatt, S, Halpin, CH, Hsu, W, Thedinger, B, Levine RA, Tuomanen E, Nadol JB. Hearing loss and pneumococcal meningitis: an animal model. *Laryngoscope*, 1991; 101:1285-1292.
17. Levine, RA, Bu-Saba, N, Brown, MC. Laser-Doppler measurements and electrocochleography during ischemia of the guinea pig cochlea: implications for hearing preservation in acoustic neuroma surgery. *Ann Otol Rhinol Laryngol*. 1993;102:127-136.
18. Levine RA, Gardner JC, Stufflebeam SM, Fullerton BC, Carlisle EW, Furst M, Rosen BR, Kiang NYS. Binaural auditory processing in multiple sclerosis subjects. *Hearing Res* 1993;68:59-72
19. Levine RA, Gardner JC, Fullerton BC, Stufflebeam SM, Carlisle EW, Furst M, Rosen BR, Kiang NYS. Effects of multiple sclerosis brainstem lesions on sound lateralization and brainstem auditory evoked potentials. *Hearing Res* 1993;68:73-88
20. Nadol, JB, Chiong, CM, Ojemann, RG, McKenna, MJ, Martuza, RL, Montgomery, WW, Levine, RA, Ronner, SF, Glynn, RJ Preservation of Hearing and Facial Nerve Function in Resection of Acoustic Neuroma. *Laryngoscope* 1992; 102: 1153 - 1158.
21. McKenna, MJ, Halpin, C, Ojemann, RG, Nadol, JB, Montgomery, WW, Levine, RA, Carlisle, E, Martuza, R. Long-term Hearing Results in Patients after Surgical Removal of Acoustic Tumors with Hearing Preservation. *Am J Otol*. 1992;13:134-136.
22. Bhatt, SM, Lauretano, A, Cabellos, C, Halpin, C, Levine, RA, Wen, ZX, Nadol, JB, Tuomanen, E. Progression of hearing loss in experimental pneumococcal meningitis: correlation with cerebrospinal fluid cytochemistry. *J Inf Dis*. 1993;167:675-683.
23. Levine, RA, Gardner, JC, Fullerton, BC, Stufflebeam, SM, Furst, M, Rosen, BR. Multiple sclerosis lesions of the auditory pons are not silent. *Brain*. 1994; 117:1127-1141
24. Furst, M., Levine, R.A., Fullerton, B.C., Korczyn, A.D., Tadmor, R., Algom, D., Brainstem Lesions and Click Lateralization in Patients with Multiple Sclerosis *Hearing Research* 1995; 82:109-124
25. Sillman JS, Levine RA, Kobler JB Laser Doppler measurements of intratemporal facial nerve blood flow. *Am J Otol*. 1994; 15:327-334.
26. Levine, R.A., Ojemann R.G. "Comment on 'Preservation of hearing in operations on acoustic tumors:

an alternative to recording brain stem auditory evoked potentials" Neurosurg 1994;34:692

27. Aharonson, V, Furst, M, Levine, RA, Chaigne, M, Korczyn, AD. Lateralization and binaural discrimination of patients with pontine lesions. *J Acoust Soc Am.* 1998;103:2624-2633.
28. Pratt, H., Polyakov, A., Aharonson, V., Korczyn, A.D., Tadmor, R., Fullerton, B.C., Levine, R.A., Furst, M., Effects of Localized Pontine Lesions on Auditory Brainstem Evoked Potentials and Binaural Processing in Humans, *Electroencephalogr Clin Neurophysiol* 1998;108(5):511-20
29. Levine, RA. Somatic modulation appears to be a fundamental attribute of tinnitus. Proceedings of the sixth international tinnitus seminar. 1999;193-197.
30. Levine, RA. Somatic (craniocervical) tinnitus and the dorsal cochlear nucleus hypothesis. *Am J Otolaryngol.* 1999;20:351-362.
31. Rappaport JM, Bhatt SM, Kimura R, Lauretano AM, Levine RA. Electron microscopic temporal bone histopathology in experimental pneumococcal meningitis. *Ann Otol Rhinol Laryngol* 1999;108:537-547.
32. Melcher, JR, Sigalovsky, I, Guinan, JJ, Levine, RA. Lateralized tinnitus studied with functional magnetic resonance imaging: abnormal inferior colliculus. *J Neurophysiol.* 2000;83:1058-1072.
33. Stufflebeam, SM, Levine, RA, Gardner, JC, Fullerton, BC, Furst, M, Rosen, BR. Objective detection and localization of multiple sclerosis lesions on magnetic resonance brainstem images: validation with auditory evoked potentials. *J Basic Clin Physiol Pharmacol.* 2000;11 :231-58.
34. Furst, M, Aharonson, V, Levine, RA, Fullerton, BC, Tadmor, R, Pratt, H, Polyakov, A, Korczyn, AD. Sound lateralization and interaural discrimination. Effects of brainstem infarcts and multiple sclerosis lesions. *Hear Res.* 2000;143:29-42.
35. Hausler, R, Levine, RA. Auditory dysfunction in stroke. *Acta Otolaryngol.* 2000;120:689-703.
36. Levine RA, Abel M and Cheng H. All that rings is not from the ear: somatic tinnitus in non-clinical subjects and the profoundly deaf. Proceedings of the Seventh International Tinnitus Seminar, pp. 99-102, 2002
37. Levine RA, Abel M and Cheng H. CNS somatosensory-auditory interactions elicit or modulate tinnitus *Eptl Brain Res* 2003; 153: 643-8
38. Abel MD, Levine RA Muscle contractions and auditory perception in tinnitus patients and non-clinical subjects. *Cranio* 2004; 22: 181-91
39. Furst, M, Bresloff, I, Levine, RA, Merlob, PL, Attias, JJ. Interaural time coincidence detectors are present at birth: evidence from binaural interaction. *Hear Res.* 2004;187:63-72
40. Levine RA. Typewriter tinnitus: a carbamazepine-responsive syndrome related to auditory nerve vascular compression. *ORL J Otorhinolaryngol Relat Spec.* 2006;68(1):43-6

41. Levine, R. A.; Nam, E. C.; Oron, Y.; Melcher, J. R. Evidence for a tinnitus subgroup responsive to somatosensory based treatment modalities. *Prog Brain Res*, 2007, 166:195-207.
42. Levine, RA, Nam EC, Melcher JR. Somatosensory pulsatile tinnitus syndrome: somatic testing identifies a pulsatile tinnitus subtype that implicates the somatosensory system. *Trends in Amplification* 2008;12:242-253. DOI: 10.1177/1084713808321185
43. Nam EC, Lewis R, Nakajima HH, Merchant SN, Levine RA. Head rotation evoked tinnitus due to superior semicircular canal dehiscence. *J Laryngol Otol* 2009:1-3.
44. Melcher JR, Levine RA, Bergevin C, Norris B. The auditory midbrain of people with tinnitus: abnormal sound-evoked activity revisited. *Hear Res* 2009;257(1-2):63-74.
45. Nam EC, Handzel O, Levine RA. Carbamazepine responsive typewriter tinnitus from basilar invagination. *J Neurol Neurosurg Psychiatry*. 2010 Apr;81(4):456-8.
46. Gu JW, Halpin CF, Nam EC, Levine RA, Melcher JR. Tinnitus, diminished sound-level tolerance, and elevated auditory activity in humans with clinically normal hearing sensitivity. *J Neurophysiol*. 2010; 104(6):3361-70
47. Oron Y, Roth Y, Levine RA. Sudden Brief Unilateral Tapering Tinnitus: Prevalence and Properties. *Otology and Neurotology*. 2011 Dec;32(9):1409-14
48. Han SS, Nam EC, Won JY, Lee KU, Chun W, Choi HK, Levine RA. Clonazepam Quiets Tinnitus: a Randomized Crossover Study with Ginkgo Biloba. *J Neurol Neurosurg Psychiatry*. 2012; 83:821-827. 2012
49. Teachey WS, Wijnmans EH, Cardarelli F, Levine RA. Tinnitus of myofascial origin. *Int Tinn J* 2012, 17 (1): 70-73.
50. Gu, JW., B. S. Herrmann BS, Levine RA, Melcher JR Brainstem auditory evoked potentials suggest a role for the ventral cochlear nucleus in tinnitus." *J Assoc Res Otolaryngol* 2012, 13(6): 819-33.

Books and Monographs:

1. Kiang NYS, Moxon EC, Levine RA. Auditory-nerve activity in cats with normal and abnormal cochleas. In: Wolstenholm GEW, Knight J, eds. *Sensorineural Hearing Loss*. Great Britain: J & A Churchill, 1970:241-273.
2. Levine RA. Monitoring auditory evoked potentials during acoustic neuroma surgery. In: Silverstein H, Norrell H, eds. *Neurological Surgery of the Ear*, Vol. 2. Birmingham: Aesculapius, 1979; 287-293.

3. Levine RA. Surgical monitoring applications of the brainstem auditory evoked response and electrocochleography. In: Owen J, Donohoe C, eds. *Clinical Atlas of Auditory Evoked Potentials*. New York: Grune and Stratton, 1988; 103-116.
4. Levine RA. Short-latency auditory evoked potentials: intraoperative applications. In: *International Anesthesiology Clinics*. 1990; 28: 147-153.
5. Levine RA. Monitoring auditory evoked potentials during cerebellopontine angle surgery: relative value of electrocochleography, brainstem auditory evoked potentials and cerebellopontine angle recordings. In: Schramm J, Møller A, eds. *Intraoperative Neurophysiologic Monitoring in Neurosurgery*. Berlin: Springer-Verlag, 1991: 193-204.
6. Levine, RA, Kiang, NYS . A conversation about tinnitus. In: Vernon J, Møller A, eds. *Mechanisms of Tinnitus*. Allyn and Bacon, Boston, 1994, 149-162 .
7. Levine, RA, Ronner, SF, and Ojemann, RG Auditory evoked potential and other neurophysiological monitoring techniques during tumor surgery in the cerebellopontine angle. In: Loftus CM, Traynelis VC, eds. *Intraoperative Monitoring Techniques in Neurosurgery*. McGraw-Hill, New York 1994, 175-191.
8. Levine, RA Tinnitus. In: Fabian RL, Gluckman JL eds. *Current Opinion in Otolaryngology & Head and Neck Surgery*, vol 2. 1994, 171-176.
9. Levine, RA, Hausler, R The auditory system and stroke. In: Bogousslavsky J & Caplan L (eds) *Stroke Syndromes*. Cambridge University Press, Cambridge 2000, pp 144-61
10. Levine, RA. Diagnostic Issues in Tinnitus: a Neuro-otological Perspective. *Seminars in Hearing* 2000;22: 23-36.
11. Levine, RA, Melcher, JR. Imaging Tinnitus *J Audiological Medicine*, 2000; 9: v-x.
12. Levine, RA Hearing Loss and Tinnitus. In Samuels MA, Feske SK, eds *Office Practice of Neurology*. 2nd edition. Churchill Livingstone, Philadelphia, 2003, 87-101
13. Levine, R. A. Somatic Tinnitus. In *Tinnitus: Theory and Management*, J. Snow, ed. (Hamilton, Ontario, BC Decker), pp. 108-124 (2004).
14. Levine, R. A., Ronner, S. F., and Thornton, A. R. Intraoperative Monitoring of the Facial Nerve and Hearing. In *Surgery of the Ear and Temporal Bone*, J. B. Nadol, and M. J. McKenna, eds. (Philadelphia, Lippincott Williams & Wilkins) (2004).

Abstracts:

1. Levine RA, Moxon EC, Kiang NYS. Responses of single auditory-nerve fibers in cochleas damaged by ototoxic drugs. *J Acoust Soc Am*. 1969; 46:106-107.
2. Levine RA, Montgomery WW, Ojemann RG, Springer MFB. Evoked potential detection of hearing loss

- during acoustic neuroma surgery. *Neurology* 1978; 28:339.
3. Hosford HL, Fullerton BC, Levine RA. Binaural interaction in human and cat brainstem evoked responses. *J Acoust Soc Am.* 1979; 65:586.
 4. Levine RA, Hausler R. Interaural time discrimination and brainstem potentials in patients with multiple sclerosis. *J Acoust Soc Am.* 1979; 65:5134.
 5. Levine RA. Binaural interaction in brainstem potentials of human subjects. *Ann Neurol.* 1980; 8:96.
 6. Levine RA, McGaffigan P. Right-left asymmetries of the monaural BSERs. *ERA Newsletter* 1981: 77:9.
 7. Furst M, Levine RA, McGaffigan PM. Correlation between the perception of click lateralization and the binaural interaction component of the brainstem auditory evoked potentials. *International Evoked Response Audiometry Study Group VIIIth Biennial Symposium* (1983).
 8. Levine RA, Ojemann RG, Montgomery WW, McGaffigan PM. Monitoring cochlea, auditory nerve, and brainstem potentials during acoustic neuroma surgery. *International Evoked Response Audiometry Study Group VIIIth Biennial Symposium* (1983).
 9. Levine RA, Isenberg D, McGaffigan P. Brainstem auditory evoked potentials and dichotic listening: Do their asymmetries correlate? *Soc Neurosci Abstr.* 1983; 9:656.
 10. Levine RA. Mechanisms of hearing loss from acoustic neuroma surgery: vascular occlusion and conduction block. *International Congress on Brainstem Auditory Evoked Potentials* (1986).
 11. Levine RA, Riley P, Liederman J. Brainstem asymmetries of auditory evoked potentials are replicable and reliable. *Soc Neurosci Abstr.* 1986; 12:721.
 12. Levine RA, Davis PJ. b of the Binaural Interaction Potential Is Principally due to the High Frequency Components of the Click. *International Evoked Response Audiometry Study Group Xth Biennial Symposium* (1987).
 13. Levine RA, Ojemann RG, Montgomery WW, Martuza RL, Nadol JB. ECoG and BAEPs: Relative merits in monitoring hearing during cerebellopontine angle tumor surgery. *International Symposium on Intraoperative Neurophysiologic Monitoring* (1989).
 14. Furst M, Gardner JC, Levine RA, Fullerton B, Cuneo P. Localizing the brainstem auditory pathway in human magnetic resonance images: an algorithm matching MR scans to a computerized anatomic atlas. *Midwinter Research Meeting of the Association for Research in Otolaryngology* (1990).
 15. Gardner JC, Furst M, Levine RA, Fullerton B, Rosen BR. An anatomic atlas and mapping algorithm for localizing the brainstem auditory pathway on magnetic resonance scans. *Society of Magnetic Resonance in*

Medicine (1990).

16. Levine RA, Busaba N, Brown MC. Laser Doppler flowmetry and electrocochleography during ischemia of the guinea pig cochlea: implications for acoustic neuroma surgery. Midwinter Research Meeting of the Association for Research in Otolaryngology (1991).
17. Levine RA, Stufflebeam SM, Gardner JC, Fullerton BC, Carlisle EW, Furst M, Rosen B, Kiang NYS. Auditory processing in humans: significance of magnetic resonance scans of the pons. Midwinter Research Meeting of the Association for Research in Otolaryngology (1992).
18. Kiang NYS, Levine RA, Furst M, Fullerton BC, Stufflebeam SM, Gardner JC, Carlisle EW, Rosen B. Auditory research on multiple sclerosis patients: combined electrophysiological, psychophysical and magnetic resonance imaging studies. Midwinter Research Meeting of the Association for Research in Otolaryngology (1992).
17. Levine RA, Stufflebeam SM, Gardner JC, Fullerton BC, Rosen B, Validation of a method for mapping the human brainstem. American Association for the Advancement of Science (1993).
18. Furst M, Levine RA, Fullerton B. The relationship between click lateralization and brainstem lesions in multiple sclerosis subjects. Midwinter Research Meeting of the Association for Research in Otolaryngology (1994).
19. Levine RA, Furst M. A quick convenient test for monitoring multiple sclerosis activity. The European Congress on Multiple Sclerosis (1995).
20. Rappaport JM, Bhatt SM, Kimura R, Lauretano A, Hsu W, Levine RA. Light and electron microscopic temporal bone histopathology in experimental pneumococcal meningitis. Midwinter Research Meeting of the Association for Research in Otolaryngology (1996).
21. Furst M, Aharonson V, Levine RA. Multi-level model for brainstem binaural processing. Midwinter Research Meeting of the Association for Research in Otolaryngology (1996).
22. Furst, M, Levine, RA, Tenny, R, Zilbershatz, B, Dimitri, P, Fullerton, BC, Sundsten, J. Mapping brainstem internal structures on MRI scans. International Conference on Functional Mapping of the Human Brain. (1996)
23. Levine RA, Benson RR, Talavage TM, Melcher JR, Rosen BR. Functional magnetic resonance imaging and tinnitus: preliminary results. Midwinter Research Meeting of the Association for Research in Otolaryngology (1997).
24. Aharonson V, Furst M, Levine RA, Korczyn AD. Normal and abnormal binaural lateralization: experiments and model. Midwinter Research Meeting of the Association for Research in Otolaryngology (1997).
25. Sigalovsky I, Levine, RA, Melcher JR, Guinan JJ, Talavage TM, Ravicz ME, Rosen BR, Benson RR,

- Fullerton BC. Tinnitus studied using functional magnetic resonance imaging: development of methods Midwinter Research Meeting of the Association for Research in Otolaryngology (1998).
26. Levine, RA, Melcher, JR, Sigalovsky, I, Guinan, JJ. Abnormal inferior colliculus activation in subjects with lateralized tinnitus. *Ann Neurol.* 1998;44:441.
 27. Levine, RA. Somatic (craniocervical) tinnitus: A pivotal role for dorsal cochlear nucleus? Midwinter Research Meeting of the Association for Research in Otolaryngology (1999).
 28. Levine, RA. Somatic modulation of tinnitus: prevalence and properties. Midwinter Research Meeting of the Association for Research in Otolaryngology (2000).
 29. Levine RA, Abel M. Somatic modulation of tinnitus II: prevalence and properties in normal subjects. Midwinter Research Meeting of the Association for Research in Otolaryngology (2001).
 30. Levine RA, Cheng H. Somatic Modulation of Tinnitus III: Prevalence and Properties in Profoundly Deaf Subjects. A Functional Cochlea is Not Necessary for Somatic Modulation of Tinnitus. Midwinter Research Meeting of the Association for Research in Otolaryngology (2002).
 31. Levine, RA, Sugarman, B "Typewriter" Tinnitus: A Treatable Unilateral Tinnitus Syndrome of the Elderly. Midwinter Research Meeting of the Association for Research in Otolaryngology 26: 200 (2003).
 32. Melcher, JR, Levine, RA Imaging Human Tinnitus. Midwinter Research Meeting of the Association for Research in Otolaryngology 26: 1386 (2003).
 33. Levine, RA, Oron Y, Nam EC, Roth Y, Melcher JR. Spontaneous Brief Unilateral Tinnitus (SBUTs) -- Prevalence and Properties II. Midwinter Research Meeting of the Association for Research in Otolaryngology 31: 88 (2008)
 34. Levine, RA, Nam EC, Melcher JR. Somatosensory Pulsatile Tinnitus Syndrome: Somatic Testing Identifies a Pulsatile Tinnitus Subtype That Implicates the Somatosensory System . Midwinter Research Meeting of the Association for Research in Otolaryngology 31: 88 (2008)
 35. Levine, RA, Melcher JR. An Open Trial of Auricular Electroacupuncture for Tinnitus: Preliminary Results 8th International Tinnitus Seminar, Goteborg (2008)
 36. Levine, RA, Melcher JR, Nam EC. Somatosensory Pulsatile Tinnitus Syndrome Provides Further Support for the Dorsal Cochlear Nucleus Tinnitus Hypothesis, Tinnitus Research Initiative, Stresa (2009)
 37. Levine R, Cardarelli F, Melcher J, Szeles J. Continuous Auricular Electrical Stimulation for Tinnitus: an Update, Tinnitus Research Initiative, Stresa (2009)
 38. Levine R. Adjustments to the dorsal cochlear nucleus tinnitus hypothesis can explain why, with any degree of hearing loss, some people develop tinnitus and others do not. Tinnitus Research Initiative, Dallas (2010)
 39. Cardarelli F, Melcher J, Szeles J., Levine R. Continuous Auricular Electrical Stimulation Quiets the Tinnitus of the Somatosensory Pulsatile Tinnitus Syndrome, Tinnitus Research Initiative, Dallas (2010)
 40. Levine R. Tinnitus and the Dorsal Cochlear Nucleus: A Balancing Act – Clinical Evidence from Hearing Loss, Auditory Nerve Transection, and Benzodiazepines. Midwinter Research Meeting of the Association for Research in Otolaryngology 34: 56 (2011)
 41. Melcher J, Setsompop K, Knudson I, Levine R. Whole-Brain fMRI Without Increased Scanner-Generated Acoustic Noise: Application to Tinnitus. Midwinter Research Meeting of the Association for Research in Otolaryngology 34: 53 (2011)

42. Knudson I, Melcher J, Levine R. A Comparison of Brain Structure Between Closely Matched Tinnitus and Non-Tinnitus Subjects. Midwinter Research Meeting of the Association for Research in Otolaryngology 34: 53 (2011)
43. Levine R. Minor Clicking May Be a Major Clue in the Selection of Patients for Auditory Nerve Decompression. Israeli Society for Auditory Research (2011)
44. Levine R. Implications of the latest dorsal cochlear nucleus model for blast injury tinnitus. International State-of-the-Science Meeting on Blast-Induced Tinnitus Washington DC (2011)
45. Nam E.C., Han S.S., Won J.Y., Lee K.U., Chun W., Choi H.K., Levine R.A.: Clonazepam Quiets Tinnitus: a Randomized Crossover Study with Ginkgo Biloba. 6th International Conference on Tinnitus; Tinnitus Research Initiative, Brugge (2012)