

# Lloyd Brooks Minor

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## CURRENT APPOINTMENTS

Carl and Elizabeth Naumann Dean of the School of Medicine, Stanford University, 12/12–present  
 Professor of Otolaryngology–Head and Neck Surgery, Stanford University, 09/12–present  
 Professor of Bioengineering and of Neurobiology, by courtesy, Stanford University, 12/12–present

## EDUCATION AND TRAINING

1979	Sc.B.	Brown University (Biology)
1982	M.D.	Brown University
1982–1984	Resident	Duke University Medical Center, Department of Surgery
1984–1988	Research Fellow	University of Chicago, Department of Pharmacological and Physiological Sciences (Vestibular Neurophysiology), Supervisor Jay M. Goldberg, Ph.D.
1988–1992	Resident	University of Chicago Medical Center, Division of Otolaryngology–Head and Neck Surgery
1992–1993	Clinical Fellow	The Otology Group and The EAR Foundation; Nashville, TN Otology and Neurotology

## PREVIOUS APPOINTMENTS

08/93–06/97	Assistant Professor	Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery; The Johns Hopkins University, Department of Neuroscience (secondary appointment)
09/95–06/97	Assistant Professor	The Johns Hopkins University, Department of Biomedical Engineering (secondary appointment)

07/97–01/01	Associate Professor	Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery; The Johns Hopkins University, Departments of Neuroscience and Biomedical Engineering (secondary appointments)
02/01–08/12	Professor	Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery; The Johns Hopkins University, Departments of Neuroscience and Biomedical Engineering (secondary appointments)
09/02–10/03	John E. Bordley Professor	Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery
11/03–08/09	Andelot Professor and Director (Chair)	Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery
11/03–08/09	Otolaryngologist-in-Chief	The Johns Hopkins Hospital
09/09–08/12	Provost and Senior Vice President for Academic Affairs	The Johns Hopkins University
12/09–08/12	University Distinguished Service Professor	Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery

## PUBLICATIONS

### *Articles*

1. York, J.L., Miller, F.S., and Minor, L.B. (1980). Proton magnetic resonance study of the histidines in hemerythrin and chemical identification of the nonligand histidines. Biochemistry **19**: 2583-2588.
2. Rimmel, R.S., Skinner, R.D., and Minor, L.B. (1980). Eighth nerve activation of cat pontine reticular neurons which project in or near the ascending medial longitudinal fasciculus. Experimental Neurology **70**: 706-711.
3. Rimmel, R.S., Skinner, R.D., and Minor, L.B. (1981). Vestibular inputs to cat reticulo-MLF neurons. In Fuchs, A.F. and Becker, W. (eds.), Progress in Oculomotor Research. Amsterdam: Elsevier, 402-407.
4. Burchard, K.W., Minor, L.B., Slotman, G.J., and Gann, D.S. (1983). Fungal sepsis in surgical patients. Archives of Surgery **118**: 217-221.
5. Burchard, K.W., Minor, L.B., Slotman, G.J., and Gann, D.S. (1984). Staphylococcus epidermidis sepsis in surgical patients. Archives of Surgery **119**: 96-100.

6. Skinner, R.D., Rummel, R.S., and Minor, L.B. (1984). Monosynaptic activation of long descending propriospinal neurons from the lateral vestibular nucleus and the medial longitudinal fasciculus. Experimental Neurology 86: 462-472.
7. Goldberg, J.M., Minor, L.B., and Fernández, C. (1988). The functional organization of the vestibular labyrinth and some of its central pathways. In Hwang, L.C., Daunton, N.G., and Wilson, V.J. (eds.), Basic and Applied Aspects of Vestibular Function. Hong Kong: Hong Kong University Press, 3-12.
8. Minor, L.B. and Goldberg, J.M. (1990). Influence of static head position on the horizontal nystagmus evoked by caloric, rotational and optokinetic stimulation in the squirrel monkey. Experimental Brain Research 82: 1-13.
9. Minor, L.B., McCrea, R.A., and Goldberg, J.M. (1990). Dual projections of secondary vestibular axons in the medial longitudinal fasciculus to extraocular motor nuclei and the spinal cord of the squirrel monkey. Experimental Brain Research 83: 9-21.
10. Minor, L.B. and Goldberg, J.M. (1991). Vestibular-nerve inputs to the vestibulo-ocular reflex: A functional-ablation study in the squirrel monkey. Journal of Neuroscience 11: 1636-1648.
11. Glasscock, M.E. III, Hays, J.W., Minor, L.B., Haynes, D.S., and Carrasco, V.N. (1993). Preservation of hearing in surgery for acoustic neuromas. Journal of Neurosurgery 78: 864-870.
12. Minor, L.B. and Panje, W.R. (1993). Malignant neoplasms of the scalp: Etiology, resection, and reconstruction. Otolaryngologic Clinics of North America 26: 279-293.
13. Minor, L.B. (1994). Controversies in the management of glomus tumors of the temporal bone. Operative Techniques in Otolaryngology, Head and Neck Surgery 5: 189-202.
14. Strasnick, B., Glasscock, M.E. III, Haynes, D., McMenemy, S.O., and Minor, L.B. (1994). The natural history of untreated acoustic neuromas. Laryngoscope 104: 1115-1119.
15. McMenemy, S.O., Glasscock, M.E. III, Minor, L.B., Jackson, C.G., and Strasnick, B. (1994). Facial nerve neuromas presenting as acoustic tumors. American Journal of Otology 15: 307-312.
16. Lysakowski, A., Minor, L.B., Fernández, C., Goldberg, J.M. (1995). Physiological identification of morphologically distinct afferent classes innervating the cristae ampullares of the squirrel monkey. Journal of Neurophysiology 73: 1270-1281.
17. Minor, L.B. (1995). Neuro-otology: Hearing. Current Opinion in Neurology 8: 89-94.
18. Backous, D.D., Minor, L.B., and Niparko, J.K. (1996). Trauma to the external auditory canal and temporal bone. Otolaryngologic Clinics of North America 29: 853-866.
19. Jackson, C.G., Dickins, J.R., McMenemy, S.O., Graham, S.S., Glasscock, M.E. III, Minor, L.B., and Strasnick, B. (1996). Endolymphatic system shunting: A long-term profile of the Denver Inner Ear Shunt. American Journal of Otology 17: 85-88.

20. Minor, L.B., Tomko, D.L., and Paige, G.D. (1997). Torsional eye movements evoked by unilateral labyrinthine polarizations in the squirrel monkey. In Fetter, M., et al. (eds.), Three Dimensional Kinematic Principles of Eye, Head, and Limb Movements in Health and Disease. Amsterdam: Harwood Academic Publishers, 161-170.
21. Minor, L.B. (1998). Physiological principles of vestibular function on earth and in space. Otolaryngology–Head and Neck Surgery **118**: S5-S15.
22. Minor, L.B., Solomon, D., Zinreich, J.S., and Zee, D.S. (1998). Sound- and/or pressure-induced vertigo due to bone dehiscence of the superior semicircular canal. Archives of Otolaryngology–Head and Neck Surgery **124**: 249-258.
23. Minor, L.B. (1998). Gentamicin-induced bilateral vestibular hypofunction. Journal of the American Medical Association **279**: 541-544.
24. Backous, D.D., Minor, L.B., Aboujaoude, E.S., and Nager, G.T. (1999). Relationship of the utriculus and sacculus to the stapes footplate: Anatomic implications for sound- and/or pressure-induced otolith activations. Annals of Otolaryngology, Rhinology, and Laryngology **108**: 548-553.
25. Gillespie, M.B. and Minor, L.B. (1999). Prognosis in bilateral vestibular hypofunction. Laryngoscope **109**: 35-41.
26. Minor, L.B. (1999). Intratympanic gentamicin for control of vertigo in Ménière's disease: Vestibular signs that specify completion of therapy. American Journal of Otology **20**: 209-219.
27. Haslwanter, T. and Minor, L.B. (1999). Nystagmus induced by circular head shaking in normal human subjects. Experimental Brain Research **124**: 25-32.
28. Minor, L.B., Haslwanter, T., Straumann, D., and Zee, D.S. (1999). Hyperventilation-induced nystagmus in patients with vestibular schwannoma. Neurology **53**: 2158-2168.
29. Minor, L.B., Lasker, D.M., Backous, D.D., and Hullar, T.E. (1999). Horizontal vestibuloocular reflex evoked by high-acceleration rotations in the squirrel monkey. I. Normal responses. Journal of Neurophysiology **82**: 1254-1270.
30. Lasker, D.M., Backous, D.D., Lysakowski, A., Davis, G.L., and Minor, L.B. (1999). Horizontal vestibuloocular reflex evoked by high-acceleration rotations in the squirrel monkey. II. Responses after canal plugging. Journal of Neurophysiology **82**: 1271-1285.
31. Hullar, T.E. and Minor, L.B. (1999). High-frequency dynamics of regularly discharging canal afferent provide a linear signal for angular vestibuloocular reflexes. Journal of Neurophysiology **82**: 2000-2005.
32. Minor, L.B. (2000). Superior canal dehiscence syndrome. American Journal of Otology **21**: 9-19.
33. Carey, J.P., Minor, L.B., and Nager, G.T. (2000). Dehiscence or thinning of bone overlying the superior semicircular canal in a temporal bone survey. Archives of Otolaryngology–Head and Neck Surgery **126**: 137-147.

34. Lasker, D.M., Hullar, T.E., and Minor, L.B. (2000). Horizontal vestibuloocular reflex evoked by high-acceleration rotations in the squirrel monkey. III. Responses after labyrinthectomy. Journal of Neurophysiology 83: 2482-2496.
35. Hess, B.J., Lysakowski, A., Minor, L.B., and Angelaki, D.E. (2000). Central versus peripheral origin of vestibulo-ocular reflex recovery following semicircular canal plugging in rhesus monkeys. Journal of Neurophysiology 84: 3078-3082.
36. Cremer, P.D., Minor, L.B., Carey, J.P., and Della Santina, C.C. (2000). Eye movements in patients with the superior canal dehiscence syndrome align with the abnormal canal. Neurology 55: 1833-1841.
37. Streubel, S.O., Cremer, P.D., Carey, J.P., Weg, N., and Minor, L.B. (2001). Vestibular-evoked myogenic potentials in the diagnosis of superior canal dehiscence syndrome. Acta Otolaryngologica Supplement 545: 41-49.
38. Minor, L.B., Cremer, P.D., Carey, J.P., Della Santina, C.C., Streubel, S.O., and Weg, N. (2001). Symptoms and signs in superior canal dehiscence syndrome. Annals of the New York Academy of Sciences 942: 259-273.
39. Ramat, S., Zee, D.S., and Minor, L.B. (2001). Translational vestibulo-ocular reflex evoked by a “head heave” stimulus. Annals of the New York Academy of Sciences 942: 95-113.
40. Della Santina, C.C., Cremer, P.D., Carey, J.P., and Minor, L.B. (2001). The vestibulo-ocular reflex during self-generated head movements by human subjects with unilateral vestibular hypofunction: Improved gain, latency, and alignment provide evidence of preprogramming. Annals of the New York Academy of Sciences 942: 465-466.
41. Clendaniel, R.A., Lasker, D.M., and Minor, L.B. (2001). Horizontal vestibuloocular reflex evoked by high-acceleration rotations in the squirrel monkey. IV. Responses after spectacle-induced adaptation. Journal of Neurophysiology 86: 1594-1611.
42. Hirvonen, T.P., Carey, J.P., Liang, C.J., and Minor, L.B. (2001). Superior canal dehiscence: Mechanisms of pressure sensitivity in a chinchilla model. Archives of Otolaryngology–Head and Neck Surgery 127: 1331-1336.
43. Armand, M., and Minor, L.B. (2001). Relationship between time- and frequency-domain analyses of angular head movements in the squirrel monkey. Journal of Computational Neuroscience 11: 217-239.
44. Lasker, D.M., Ramat, S., Carey, J.P., and Minor, L.B. (2002). Vergence-mediated modulation of the human horizontal angular VOR provides evidence of pathway-specific changes in VOR dynamics. Annals New York Academy of Sciences 956: 324-337.
45. Limb, C.J., Mabrie, D.C., Carey, J.P., and Minor, L.B. (2002). Hemangioma of the external auditory canal. Otolaryngology–Head and Neck Surgery 126: 74-75.

46. Della Santina, C.C., Cremer, P.D., Carey, J.P., and Minor, L.B. (2002). Comparison of head thrust test with head autorotation test reveals that the vestibulo-ocular reflex is enhanced during voluntary head movements. Archives of Otolaryngology–Head and Neck Surgery 128: 1044-1054.
47. Cullen, K.E. and Minor, L.B. (2002). Semicircular canal afferents similarly encode active and passive head-on-body rotations: Implications for the role of vestibular efference. Journal of Neuroscience 22: RC226(1-7).
48. Clendaniel, R.A., Lasker, D.M., and Minor, L.B. (2002). Differential adaptation of linear and nonlinear components of the horizontal vestibuloocular reflex in squirrel monkeys. Journal of Neurophysiology 88: 3534-3540.
49. Reti, I.M., Minor, L.B., and Baraban, J.M. (2002). Prominent expression of Narp in central vestibular pathways: Selective effect of labyrinth ablation. European Journal of Neuroscience 16: 1949-1958.
50. Carey, J.P., Minor, L.B., Peng, G.C., Della Santina, C.C., Cremer, P.D., and Haslwanter, T. (2002). Changes in the three-dimensional angular vestibulo-ocular reflex following intratympanic gentamicin for Ménière's disease. Journal of the Association for Research in Otolaryngology 3: 430-443.
51. Carey, J.P., Hirvonen, T.P., Peng, G.C., Della Santina, C.C., Cremer, P.D., Haslwanter, T., and Minor, L.B. (2002). Changes in the angular vestibulo-ocular reflex after a single dose of intratympanic gentamicin for Ménière's disease. Annals of the New York Academy of Sciences 956: 581-584.
52. Lewis, R.F., Gong, W., Ramsey, M., Minor, L., Boyle, R., and Merfeld, D.M. (2002/2003). Vestibular adaptation studied with a prosthetic semicircular canal. Journal of Vestibular Research 12: 87-94.
53. Minor, L.B., Carey, J.P., Cremer, P.D., Lustig, L.R., Streubel, S.O., and Ruckenstein, M.J. (2003). Dehiscence of bone overlying the superior canal as a cause of apparent conductive hearing loss. Otology & Neurotology 24: 270-278.
54. Belden, C.J., Weg, N., Minor, L.B., and Zinreich, S.J. (2003). CT evaluation of bone dehiscence of the superior semicircular canal as a cause of sound- and/or pressure-induced vertigo. Radiology 226: 337-343.
55. Hirvonen, T.P., Weg, N., Zinreich, S.J., and Minor, L.B. (2003). CT high-resolution findings suggest a developmental abnormality underlying superior canal dehiscence syndrome. Acta Otolaryngologica 123: 477-481.
56. Wu, I.C. and Minor, L.B. (2003). Long-term hearing outcome in patients receiving intratympanic gentamicin for Ménière's disease. Laryngoscope 113: 815-820.
57. Lustig, L.R., Yeagle, J., Niparko, J.K., and Minor, L.B. (2003). Cochlear implantation in patients with bilateral Ménière's syndrome. Otology & Neurotology 24: 397-403.
58. Migliaccio, A.A., Cremer, P.D., Aw, S.T., Halmagyi, G.M., Curthoys, I.S., Minor, L.B., and Todd, M.J. (2003). Vergence-mediated changes in the axis of eye rotation during the human vestibulo-ocular reflex can occur independent of eye position. Experimental Brain Research 151: 238-248.

59. Cox, K.M., Lee, D.J., Carey, J.P., and Minor, L.B. (2003). Dehiscence of bone overlying the superior semicircular canal as a cause of an air-bone gap on audiometry: A case study. American Journal of Audiology 12: 11-16.
60. Minor, L.B. (2003). Labyrinthine fistulae: Pathobiology and management. Current Opinion in Otolaryngology–Head and Neck Surgery 11: 340-346.
61. Peng, G.C., Zee, D.S., and Minor, L.B. (2004). Phase-plane analysis of gaze stabilization to high acceleration head thrusts: A continuum across normal subjects and patients with loss of vestibular function Journal of Neurophysiology 91: 1763-1781.
62. Carey, J.P., Hirvonen, T.P., Hullar, T.E., and Minor, L.B. (2004). Acoustic responses of vestibular afferents in a model of superior canal dehiscence. Otology & Neurotology 25: 345-352.
63. Minor, L.B., Schessel, D.A., and Carey, J.P. (2004). Ménière's disease. Current Opinion in Neurology 17: 9-16.
64. Schubert, M.C. and Minor, L.B. (2004). Vestibulo-ocular physiology underlying vestibular hypofunction. Physical Therapy 84: 373-385.
65. Migliaccio, A.A., Minor, L.B., and Carey, J.P. (2004). Vergence-mediated modulation of the human horizontal vestibulo-ocular reflex is eliminated by a partial peripheral gentamicin lesion. Experimental Brain Research 159: 92-98.
66. Migliaccio, A.A., Schubert, M.D., Jiradjevong, P., Lasker, D.M., Clendaniel, R.A., and Minor, L.B. (2004). The three-dimensional vestibulo-ocular reflex evoked by high-acceleration rotations in the squirrel monkey. Experimental Brain Research 159: 433-46.
67. Hirvonen, T.P., Minor, L.B., Hullar, T.E., and Carey, J.P. (2005). Effects of intratympanic gentamicin on vestibular afferents and hair cells in the chinchilla. Journal of Neurophysiology 93: 643-655.
68. Migliaccio, A.A., MacDougall, H.G., Minor, L.B., Della Santina, C.C. (2005). Inexpensive system for real-time 3-dimensional video-oculography using a fluorescent marker array. Journal of Neuroscience Methods 143: 141-150.
69. Peng, C.G., Minor, L.B., Zee, D.S. (2005). Gaze position corrective eye movements in normal subjects and in patients with vestibular deficits. Annals of the New York Academy of Sciences 1039: 337-348.
70. Potyagaylo, V.L., Della Santina, C.C., Minor, L.B., Carey, J.P. (2005). Superior canal dehiscence is not due to cephalic displacement of the labyrinth. Annals of the New York Academy of Sciences 1039: 498-502.
71. Hullar, T.E., Della Santina, C.C., Hirvonen, T.P., Lasker, D.M., Carey, J.P., and Minor, L.B. (2005). Responses of irregularly discharging chinchilla semicircular canal vestibular-nerve afferents during high-frequency head rotations. Journal of Neurophysiology 93: 2777-2786.

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73. Della Santina, C.C., Potyagaylo, V., Migliaccio, A.A., Minor, L.B., and Carey, J.P. (2005). Orientation of human semicircular canals measured by three-dimensional multi-planar CT reconstruction. Journal of the Association for Research in Otolaryngology 6: 191-206.
74. Park, H.J., Migliaccio, A.A., Della Santina, C.C., Minor, L.B., and Carey, J.P. (2005). Search-coil head thrust and caloric tests in Ménière's disease. Acta Otolaryngologica 125: 852-857.
75. Lin, F.R., Migliaccio, A.A., Haslwanter, T., Minor, L.B., and Carey, J.P. (2005). Angular vestibulo-ocular reflex gains correlate with vertigo after intratympanic gentamicin treatment for Ménière's disease. Annals of Otology, Rhinology, & Laryngology 114: 777-785.
76. Minor, L.B. (2005). Clinical manifestations of superior semicircular canal dehiscence. Laryngoscope 115: 1717-1727.
77. Minor, L.B. (2005). Evaluation of vestibular function. In Proceedings of the Fifth International Symposium on Ménière's Disease and Inner Ear Homeostasis Disorders. Los Angeles: House Ear Institute Publications, 91-92.
78. Migliaccio, A.A., Schubert, M.C., Clendaniel, R.A., Carey, J.P., Della Santina, C.C., Minor, L.B., and Zee, D.S. (2006). Axis of eye rotation changes with head-pitch orientation during head impulses about Earth-vertical. Journal of the Association for Research in Otolaryngology 7: 140-150.
79. Migliaccio, A.A., Della Santina, C.C., Carey, J.P., Minor, L.B., and Zee, D.S. (2006). The effect of binocular eye position and head rotation plane on the human torsional vestibuloocular reflex. Vision Research 46: 2475-2486.
80. Sadeghi, S.G., Minor, L.B., and Cullen, K.E. (2006). Response to high frequency, high acceleration, and high velocity rotations following unilateral labyrinthectomy: Horizontal vestibuloocular reflex dynamics. Experimental Brain Research 175: 471-484.
81. Grandis, J.R., Battey, J.F., Califf, R.M., Chole, R.A., Gantz, B.J., Gates, G.A., Gorelic, L., Hannley, M.T., Hardwick, K.S., Harris, J.P., Kapoor, W.N., Lai, S.Y., Lalwani, A.K., Minor, L.B., Nadol, J.P., Post, J.C., Roland, P.S., Schechter, A.M., Schuller, D.E., Sklare, D.A., Wackym, P.A., Weber, R.S., Weymuller, E.A. Jr., Wolf, G.T., and Woodson, G.E. (2006). Research education and training in otolaryngology: Meeting summary and research opportunities. Otolaryngology-Head and Neck Surgery 135: 361-367.
82. Limb, C.J., Carey, J.P., Srireddy, S., and Minor, L.B. (2006). Auditory function in patients with surgically treated superior semicircular canal dehiscence. Otology & Neurotology 27: 969-980.
83. Sadeghi, S.G., Minor, L.B., and Cullen, K.E. (2007). Response of vestibular-nerve afferents to active and passive rotations under normal conditions and after unilateral labyrinthectomy. Journal of Neurophysiology 97: 1503-1514.

84. Carey, J.P., Migliaccio, A.A., and Minor, L.B. (2007). Semicircular canal function before and after surgery for superior canal dehiscence. Otology & Neurotology 28: 356-364.
85. Welgampola, M.S., Wyrie, O.A., Minor, L.B., and Carey, J.P. (2008). Vestibular-evoked myogenic potential thresholds normalize upon plugging superior canal dehiscence. Neurology 70: 464-472.
86. Boleas-Aguirre, M.S., Lin, F.R., Della Santina, C.C., Minor, L.B., and Carey, J.P. (2008). Longitudinal results with intratympanic dexamethasone in the treatment of Ménière's disease. Otology & Neurotology 29: 33-38.
87. Migliaccio, A.A., Minor, L.B., and Carey, J.P. (2008). Vergence-mediated modulation of the human angular vestibulo-ocular reflex is unaffected by canal plugging. Experimental Brain Research 186: 581-587.
88. Schubert, M.D., Migliaccio, A.A., Minor, L.B., and Clendaniel, R.A. (2008). Retention of VOR gain following short-term VOR adaptation. Experimental Brain Research 187: 117-127.
89. Lasker, D.M., Han, G.C., and Park, H.J., and Minor, L.B. (2008). Rotational responses of vestibular-nerve afferents innervating the semicircular canals in the C57BL/6 mouse. Journal of the Association for Research in Otolaryngology 9: 334-348.
90. Crane, B.T., Minor, L.B., and Carey, J.P. (2008). Three-dimensional computed tomography of superior canal dehiscence syndrome. Otology & Neurotology 29: 699-705.
91. Crane, B.T., Minor, L.B., and Carey, J.P. (2008). Superior canal dehiscence plugging reduces dizziness handicap. Laryngoscope 118: 1809-1813.
92. Nguyen, K.D., Minor, L.B., Della Santina, C.C., and Carey, J.P. (2009). Time course of repeated intratympanic gentamicin for Ménière's disease. Laryngoscope 119:792-798.
93. Welgampola, M.S., Migliaccio, A.A., Myrie, O.A., Minor, L.B., and Carey, J.P. (2009). The human sound-evoked vestibulo-ocular reflex and its electromyographic correlate. Clinical Neurophysiology 120: 158-166.
94. Agrawal, Y., Carey, J.P., Della Santina, C.C., Schubert, M.D., and Minor, L.B. (2009). Disorders of balance and vestibular function in US adults: Data from the National Health and Nutrition Examination Survey, 2001-2004. Archives of Internal Medicine 169: 938-944.
95. Sadeghi, S.G., Goldberg, J.M., Minor, L.B., and Cullen, K.E. (2009). Efferent-mediated responses in vestibular-nerve afferents of the alert macaque. Journal of Neurophysiology 101: 988-1001.
96. Yakushin, S.B., Tarasenko, Y., Raphan, T., Suzuki, J., Della Santina, C.C., Minor, L.B., and Cohen, B. (2009). Modification of the cervico-ocular reflex by canal plugging. Annals of the New York Academy of Sciences 1164: 60-67.
97. Cohen, B., Xiang, Y., Yakushin, S.G., Kunin, M., Raphan, T., Minor, L., and Della Santina, C.C. (2009). Effect of canal plugging on quadrupedal locomotion in monkey. Annals of the New York Academy of Sciences 1164: 89-96.

98. Agrawal, Y., Migliaccio, A.A., Minor, L.B., and Carey, J.P. (2009). Vestibular hypofunction in the initial post-operative period after surgical treatment of superior canal dehiscence. Otology & Neurotology 30: 502-506.
99. Nguyen, K.D., Minor, L.B., Della Santina, C.C., and Carey, J.P. (2009). Vestibular function and vertigo control after intratympanic gentamicin for Ménière's disease. Audiology & Neurotology 14: 361-372.
100. Crane, B.T., Minor, L.B., Della Santina, C.C., and Carey, J.P. (2009). Middle ear exploration in patients with Ménière's disease who have failed outpatient intratympanic gentamicin therapy. Otology & Neurotology 30: 619-624.
101. Sadeghi, S.G., Goldberg, J.M., Minor, L.B., and Cullen, K.E. (2009). Effects of canal plugging on the vestibuloocular reflex and vestibular nerve discharge during passive and active head rotations. Journal of Neurophysiology 102: 2693-2703.
102. Muir, G.M., Brown, J.E., Carey, J.P., Hirvonen, T.P., Della Santina, C.C., Minor, L.B., and Taube, J.S. (2009). Disruption of the head direction cell signal after occlusion of the semicircular canals in the freely moving chinchilla. Journal of Neuroscience 29: 14521-14533.
103. Laeeq, K., Bhatti, N.I., Carey, J.P., Della Santina, C.C., Limb, C.J., Niparko, J.K., Minor, L.B., and Francis, H.W. (2009). Pilot testing of an assessment tool for competency in mastoidectomy. Laryngoscope 119: 2402-2410.
104. Minor, L.B. and Lasker, D.M. (2009). Tonic and phasic contributions to pathways mediating compensation and adaptation of the vestibulo-ocular reflex. Journal of Vestibular Research 19: 159-170.
105. Cullen, K.E., Minor, L.B., Beraneck, M., and Sadeghi, S.G. (2009). Neural substrates underlying vestibular compensation: Contribution of peripheral versus central processing. Journal of Vestibular Research 19: 171-182.
106. Campbell, C.A., Della Santina, C.C., Meyer, N.C., Smith, N.B., Stone, E.M., Fushima, K., Califano, J., Carey, J.P., Hansen, M.R., Gantz, B.J., Minor, L.B., and Smith, R.J. (2010). Polymorphisms in KCNE1 or KCNE3 are not associated with Ménière's disease in the Caucasian population. American Journal of Medical Genetics Part A 152A: 67-74.
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## ***Textbooks***

Lustig, L.R. and Niparko, J.K. (eds.), Minor, L.B. and Zee, D.S. (associate eds.). (2003). Clinical Neurotology: Diagnosing and Managing Disorders of Hearing, Balance and the Facial Nerve. United Kingdom: Taylor & Francis.

Gulya, A.J., Minor, L.B., and Poe, D.S. (eds.). (2010). Glasscock-Shambaugh Surgery of the Ear, 6<sup>th</sup> edition. Shelton, Connecticut: People's Medical Publishing House.

Goldberg, J.M., Wilson, V.J., Cullen, K.E., Angelaki, D.E., Büttner-Ennever, J.A., Broussard, D.M., Fukushima, K., and Minor, L.B. (2012). The Vestibular System: A Sixth Sense. New York: Oxford University Press.

## ***Book Chapters***

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2. Panje, W.R., and Minor, L.B. (1995). Reconstruction of the scalp. In Baker, S.R., and Swanson, N.A. (eds.), Local Flaps in Facial Reconstruction. St. Louis: Mosby Year Book, 481-516.
3. Minor, L.B., and Zee, D.S. (1998). Evaluation of the patient with dizziness. In Cummings, C.W., et al. (eds.), Otolaryngology–Head and Neck Surgery, 3<sup>rd</sup> edition. Chicago: Mosby Year Book, 2623-2671.
4. Schessel, D.A., Minor, L.B., and Nedzelski, J.M. (1998). Ménière's disease and other peripheral vestibular disorders. In Cummings, C.W. et al. (eds.), Otolaryngology–Head and Neck Surgery, 3<sup>rd</sup> edition. Chicago: Mosby Year Book, 2672-2705.
5. Carey, J.P. and Minor, L.B. (2000). Disorders that affect central and peripheral vestibular function. In Goebel, J.P. (ed.), Practical Management of the Dizzy Patient. Philadelphia: Lippincott Williams & Wilkins, 237-258.
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7. Minor, L.B. and Zee, D.S. (2002). Anatomy and physiology of the vestibular system. In Lustig, L. and Niparko, J.K. (eds.), Clinical Neurotology: Disorders of Hearing, Balance and the Facial Nerve. London: M. Dunitz Ltd., 37-54.
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10. Hullar, T.E. and Minor, L.B. (2004). The neurotologic exam. In Jackler, R.K., and Brackmann, D.E. (eds.), Textbook of Neurotology, 2<sup>nd</sup> edition. Chicago: Mosby Year Book, 215-227.
11. Hullar, T.E., Minor, L.B., and Zee, D.S. (2004). Evaluation of the patient with dizziness. In Cummings, C.W., et al. (eds.), Otolaryngology–Head and Neck Surgery, 4<sup>rd</sup> edition. Chicago: Mosby Year Book, 3160-3198.
12. Schessel, D.A., Minor, L.B., and Nedzelski, J.M. (2004). Ménière’s disease and other peripheral vestibular disorders. In Cummings, C.W., et al. (eds.), Otolaryngology–Head and Neck Surgery, 4<sup>th</sup> edition. Chicago: Mosby Year Book, 3209-3253.
13. Minor, L.B. (2005). Inner ear causes of dizziness and vertigo. In Poe, D. (ed.), The Consumer Handbook on Dizziness. Sedona: Auricle Ink Publishers, 111-124.
14. Minor, L.B. and Carey, J.P. (2006). Superior canal dehiscence, perilymphatic fistula and Ménière’s disease: Assessment and Management. In Miller, A.E. (ed.), Continuum in Neurology: Neuro-otology, Vol. 12, Number 4. Philadelphia: Lippincott Williams & Wilkins, 65-91.
15. Minor, L.B. Disorders of the vestibular periphery. (2008). In Binder, M., Hirokawa, N., and Windhorst, U. (eds.), Encyclopedia of Neuroscience. Heidelberg: Springer-Verlag, 1042-1050.
16. Carey, J.P. and Minor, L.B. (2008). DDX: Disorders that affect central and peripheral vestibular function. In Goebel, J.A. (ed.), Practical Management of the Dizzy Patient, 2<sup>nd</sup> edition. Philadelphia: Wolters Kluwer, 265-285.
17. Friedland, D.R. and Minor, L.B. (2009). Ménière’s disease, vestibular neuritis, benign paroxysmal positional vertigo, superior semicircular canal dehiscence, and vestibular migraine. In Snow, J.B. and Wackym, P.A. (eds.), Ballenger’s Otorhinolaryngology Head and Neck Surgery, 17<sup>th</sup> edition. People’s Medical Press, 313-332.
18. Della Santina, C.C., Minor, L.B., and Carey, J.P. (2008). The vestibular system. In Lee, K.J. (ed.), Essential Otolaryngology, 9<sup>th</sup> edition. New York: McGraw-Hill, 94-134.
19. Minor, L.B. and Carey, J.P. (2010). “Superior semicircular canal dehiscence syndrome and perilymphatic fistula. In Eggers, S. and Zee, D.S., Handbook of Clinical Neurophysiology: Vestibular and Balance Disorders. New York: Elsevier, 415-427.
20. Hullar, T.E., Zee, D.S., and Minor, L.B. (2010). Evaluation of the patient with dizziness. In Flint, P.W. et al. (eds.), Cummings Otolaryngology–Head and Neck Surgery, 5<sup>th</sup> edition. New York: Elsevier, 2305-2327.
21. Crane, B.T., Schessel, D.A., Nedzelski, J., and Minor, L.B. (2010). Peripheral vestibular disorders. In Flint, P.W. et al. (eds.), Cummings Otolaryngology–Head and Neck Surgery, 5<sup>th</sup> edition. New York: Elsevier, 2328-2345.

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23. Hullar, T.E., Page, N.C., and Minor, L.B. (2010). Vestibular physiology and disorders of the labyrinth. In Gulya, A.J., Minor, L.B., and Poe, D.S. (eds.), Glasscock-Shambaugh, Surgery of the Ear, 6<sup>th</sup> edition. Shelton, Connecticut: People's Medical Publishing House, 113-135.
24. Crane, B.T., Carey, J.P., and Minor, L.B. (2010). Surgical treatment of peripheral vestibular disorders. In Gulya, A.J., Minor, L.B., and Poe, D.S. (eds.), Glasscock-Shambaugh, Surgery of the Ear, 6<sup>th</sup> edition. Shelton, Connecticut: People's Medical Publishing House, 563-581.
25. Minor, L.B., and Johns, Michael M.E. (2016). Medical education: One size does not fit all. In Paté-Cornell, E., Rouse, W.B., and Vest, C.M. (eds.), Perspectives on Complex Global Challenges: Education, Energy, Healthcare, Security and Resilience. Hoboken, NJ: John Wiley & Sons, Inc., 117-119.

### ***Case Report***

Crane, B.T., Carey, J.P., McMenomey, S., and Minor, L.B. (2010). Meningioma causing superior canal dehiscence syndrome. Otology & Neurotology 31: 1009-1010.

### **GRANT SUPPORT**

#### ***Principal Investigator***

<b>Date</b>	<b>Title</b>	<b>Direct Costs</b>	<b>Source</b>
07/84–06/87	Differential Responses of Secondary Vestibular Neurons	\$60,000	Individual National Research Service Award, NIH (PHS F32 NSO7560)
07/87–06/88	Primary Vestibular Afferent Inputs to Central Pathways Mediating the Vestibulo-Ocular Reflex	\$22,000	Space Biology Research Associate Award, NASA
07/87–06/88	Vestibular Afferent Inputs to Secondary Neurons	\$25,000	Research Grant for Pilot Studies, NIH (R03 EYO7209)
01/94–12/95	Vestibular Physiology Compensation		Ross Clinician Scientist Award, Johns Hopkins University School of Medicine
07/94–06/95	Physiology of Processes Mediating Compensation to Vestibular Injury	\$23,500	American Otological Society Grant

07/94–06/97	Vestibular-Nerve Inputs to Linear Vestibulo-ocular Reflexes	\$55,000	NASA Joint Research Interchange
12/94–08/95	Physiology of Vestibular Compensation	\$75,000	Clinician Investigator Development Award, NIH (K08, DC00106)
09/95–08/00	Otolith-Ocular Reflexes: Physiology Adaptive Control	\$281,796	Project on the Johns Hopkins University Research Training Center for Hearing and Balance, NIH (P60 DC00979)
09/95–08/00	Physiology of Vestibular Compensation	\$812,859	NIH (R01 DC002390)
07/98–06/00	Vestibular Function in Ménière's Disease and Effects of Intratympanic Gentamicin	\$66,584	American Otological Society Grant
07/00–06/01	Effects of Intratympanic Gentamicin on Vestibular Function	\$35,051	American Otological Society Grant
09/00–08/05	Physiology of Vestibular Compensation	\$1,175,000	NIH (R01 DC002390, years 6-10)
04/02–03/05	Evaluation of Vestibular Function in Ménière's Disease	\$750,000	NIH (R01 DC05040, years 1-3)
07/04–06/09	Research Training in Otolaryngology	\$1,028,445	NIH (T32 DC00027, years 16-20)
09/05–03/12*	Physiology of Vestibular Compensation	\$1,661,780	NIH (R01 DC002390, years 11-15)
	Competing renewal for Years 16–20 of R01 DC002390 was funded for 5 years effective 04/12. PI on competing renewal was C.C. Della Santina. L.B. Minor was a consultant on the grant. Competing renewal for Years 21–25 has been funded for 5 years effective 05/18. PI on this most recent renewal is K.E. Cullen.		
06/09	Physiology of Vestibular Compensation	\$175,727	Administrative supplement, NIH (R01 DC002390)
07/09–06/14**	Research Training in Otolaryngology	\$1,063,928	NIH (T32 DC00027, years 21-25)
	*C.C. Della Santina became PI when L.B. Minor became Provost of Johns Hopkins University in 09/09.		
	**P.A. Fuchs became PI when L.B. Minor became Provost of Johns Hopkins University in 09/09.		

### ***Co-Investigator***

<b>Date</b>	<b>Title</b>	<b>Direct Costs</b>	<b>Source</b>
09/95–08/00	Vestibulo-ocular Reflex (VOR) Adaptation in Human Patients	\$35,200	D.S. Zee, PI; Project on the Johns Hopkins University Research Training Center for Hearing and Balance, NIH (P60 DC00979)
10/97–12/02	Context-specific Adaptation of Gravity-dependent Vestibular Reflex Responses	\$100,000	M. J. Shelhamer, PI; National Space Biomedical Research Institute, Neurovestibular Adaptation Team
09/03–08/05	Role of Vestibular Cortex in SCD Subjects using fMRI	\$31,761	G.D. Kaufman, PI (University of Texas Medical Branch, Galveston); NIH (R21 DC006056, years 1-2)
04/05–03/10	Evaluation of Vestibular Function In Ménière's Disease	\$1,360,951	J.P. Carey, PI; NIH (R01 DC05040, years 4-8)

### **TEACHING**

#### ***Classroom Instruction***

##### *Physiological Foundations for Biomedical Engineering*

Johns Hopkins University, Department of Biomedical Engineering

Taught the laboratory session on motor control for this undergraduate course (one-hour pre-lab and one-hour post-lab lecture to four classes and supervised five sections of the three-hour laboratory session), 1995–2003

##### *Structure and Function of the Auditory and Vestibular Systems*

Johns Hopkins University, Department of Biomedical Engineering

Organized the vestibular system curriculum for this two-semester graduate course offered in alternate years, 1998–2002, and gave lectures in the course, 2002–2012

##### *Core Course on Neuroscience*

Johns Hopkins University School of Medicine Course

Lectured on the vestibular system each spring, 1999–2012

##### *Grand Rounds and Clinical Lecture Series*

Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery

Lectured on the pathophysiology of disorders of the vestibular system and the inner ear (four, one-hour lectures per year)

*Temporal Bone Dissection Laboratory*

Johns Hopkins University School of Medicine, Department of Otolaryngology–Head and Neck Surgery  
Directed the laboratory session on labyrinthectomy, middle cranial fossa approach, and facial nerve dissection

*American Board of Otolaryngology*

Oral examination for certification  
Guest Examiner, 2002, 2003; Senior Examiner, 2004–2008

*Resident Education*

Stanford University, Department of Otolaryngology–Head and Neck Surgery  
Lectured on the vestibular system, 03/14, 11/14, and 11/15 and participated in the temporal bone dissection laboratory, 02/15

*SOMGEN 275: Leadership and Strategies for Health Care Delivery Innovation*

Stanford University, School of Medicine  
Led session on “Leading Academic Medical Centers to Achieve High Value Care”, 11/14

*NBIO 206: The Nervous System*

Stanford University, Department of Neurobiology  
Lectured on the vestibular system, 02/15, 02/16, 02/17, and 03/18

*MED 73N: Scientific Method and Bias*

Stanford University, Department of Medicine  
Co-Instructor (with John P.A. Ioannidis) of undergraduate seminar, 01/16–03/16

*NEPR 212: Responsible Conduct of Neuroscience Research*

Stanford University, Department of Neuroscience  
Co-lead session on contemporary issues in biomedical research and the social impacts of scientific research, 03/16

*GSBGEN 551: Innovation and Management in Health Care*

Stanford Graduate School of Business  
Participated in panel on the future of health care, 03/16, 03/17, and 03/18

*GSB Executive Education: The Innovative Health Care Leader*

Stanford Graduate School of Business  
Lead session on “Leading the Precision Health Revolution: An Expanded Role for Academic Medicine”, 05/16

*SURG 72Q: Anatomy in Society*

Stanford University  
Led session on the vestibular system, 01/17 and 01/18

*MED 10Q/RELIGST 10Q: Literature, Medicine, and Empathy*

Stanford University  
Co-Instructor (with the Rev. Professor Jane Shaw) of undergraduate seminar, 01/18–03/18

### ***Clinical Instruction***

Supervised residents and fellows in the outpatient clinic and operating room and provided instruction on otology and neurotology

### ***CME Instruction***

1. Lecturer, “Clinical Aspects and Diagnostic Testing in Ménière’s Syndrome”, “Ménière’s Medical Management Including Intratympanic Gentamicin”, and “Basic Principles of Vestibular Adaptation: Physiology”; and course instructor, “Clinical Management of Common Auditory and Vestibular Disorders”, Center for Hearing and Balance at Johns Hopkins University, 03/12/97–03/14/97
2. Course organizer and instructor, “Superior Canal Dehiscence Syndrome”, annual meetings of the American Academy of Otolaryngology–Head and Neck Surgery, 09/00, 09/01, 09/05, 09/06, and 09/07
3. Lecture on Ménière’s disease and other peripheral vestibular abnormalities, Topics in Clinical Medicine Course at the Johns Hopkins University School of Medicine, 05/01/05 and 05/05/05
4. Instructor in the Temporal Bone Dissection Course, Department of Otolaryngology, University of Michigan, 04/24/02–04/25/02
5. Special Guest Faculty, Stanford Otology & Neurotology Update 2004; lecture topics: “Vestibular Physiology Demystified”, “Superior Semicircular Canal Dehiscence Syndrome”, and “How I Examine the Dizzy Patient”, 11/04/04–11/06/04
6. Guest Faculty, The Ultimate Colorado Mid-Winter Meeting: An Otolaryngology Update and the Colorado Otology–Audiology Conference; Vail, Colorado; lecture topics: “Superior Semicircular Canal Dehiscence Syndrome” and “Symposium on Ménière’s Disease”, 01/28/07–02/01/07
7. Panelist, Surgical Partitioning of the Labyrinth, Program of the 42<sup>nd</sup> Annual Spring Meeting of the American Neurotology Society; San Diego, California, 04/27/07–04/28/07
8. Lecturer, “Ion Channels and Inner Ear Disorders”, Fall Scientific Program of the American Neurotology Society; Washington, DC, 09/07
9. Course organizer and instructor, “Advances in Diagnostic Modalities for Vestibular Disorders” annual meeting of the American Academy of Otolaryngology–Head and Neck Surgery, 09/07
10. Guest Faculty, Otolaryngology Update in New York City; lecture topics: “Making the Diagnosis of Superior Semicircular Canal Syndrome” and “In-Office Transtympanic Therapies”, 10/25/07–10/26/07
11. Guest Faculty, The Ultimate Colorado Mid-Winter Meeting: An Otolaryngology Update and The Colorado Otology–Audiology Conference; Vail, Colorado; lecture topic: “Vestibular Compensation”, 01/08

12. Guest Faculty, XXV Bárány Society Meeting; teaching session: What do I need to know to become a neurotologist; lecture topic: “What do I need to know about the ear?”, Kyoto, Japan, 01/08
13. Guest Faculty, Update in Otolaryngology and Otolaryngologic Surgery, Harvard Medical School and Massachusetts Eye and Ear Infirmary; lecture topics: “Vestibular Testing: When is it Helpful? When is it Not?” and “Dehiscence of the Superior Semicircular Canal”, 06/10/10–06/12/10

## MENTORING

### *Research Trainees*

**Douglas D. Backous, M.D.**, 07/95–06/97, Postdoctoral Fellow, supported by fellowship training grant from the American Otological Society (07/95–06/96)

*Current position:* Neurotologist at Swedish Health Services in Seattle, Washington

**Timothy E. Hullar, M.D.**, 07/97–06/99, Postdoctoral Fellow, supported by the Resident Research Training Grant in the Department of Otolaryngology–Head and Neck Surgery at Johns Hopkins University School of Medicine (NIH, T32 DC00027); resident research grant from the American Academy of Otolaryngology–Head and Neck Surgery (07/99–06/00): “Rotational Responses of Irregularly Firing Vestibular-Nerve Afferents”; research award from the Triological Society (07/02–06/03): “Information Transfer by Vestibular-Nerve Afferents”

*Current position:* Professor, Director of Otolaryngology, Neurotology, and Skull Base Surgery, and Director of the Cochlear Implant Program, Department of Otolaryngology–Head and Neck Surgery, Oregon Health & Science University School of Medicine

**Richard A. Clendaniel, Ph.D.**, 09/97–06/05, Clinician-Scientist Trainee, supported by a Mentored Clinician-Scientist Development Award, National Institute on Deafness and Other Communication Disorders (K08 DC00150)

*Current position:* Assistant Professor and Director of Physical Therapy Division, Department of Community and Family Medicine, Duke University Medical Center

**John P. Carey, M.D.**, 07/98–06/00, Postdoctoral Fellow, supported by the Research Training Center Grant in Hearing and Balance at Johns Hopkins University (NIH, P60 DC00979); research grant from the American Hearing Research Foundation (01/99–12/00): “Acoustic Responses of Vestibular Afferents: Implications for Superior Semicircular Canal Dehiscence Syndrome”; Mentored Patient-Oriented Research Career Development Award (12/00–11/05), National Institute on Deafness and Other Communication Disorders (K23 DC00196)

*Current position:* Professor and Director of the Division of Otolaryngology, Neurotology, and Skull Base Surgery, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine

**Mehran Armand, Ph.D.**, 06/99–09/00, Research Fellow, supported by the National Space Biomedical Research Institute

*Current position:* Principal Scientific Staff, Applied Physics Laboratory, Johns Hopkins University

**Phillip D. Cremer, M.D., Ph.D.**, 02/99–04/00, Postdoctoral Fellow, supported by the Garnett Passe and Rodney Williams Memorial Foundation and by the Bushell Travelling Fellowship of the Royal Australasian College of Physicians  
*Current position:* Neurologist and Director of the Vertigo and Neurotology Clinic, Royal North Shore Hospital in Sydney, Australia

**Charles C. Della Santina, M.D., Ph.D.**, 01/99–06/99, Resident Research Fellow, clinician scientist training award from the American Otological Society (07/02–06/03); Richard S. Ross clinician scientist award from the Johns Hopkins University School of Medicine; Mentored Clinician-Scientist Development Award (07/03–06/08), National Institute on Deafness and Other Communication Disorders (K08 DC006216)  
*Current position:* Professor and Director of the Vestibular NeuroEngineering Laboratory, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine

**Sven-Olrik Streubel, M.D.**, 07/99–06/01, Postdoctoral Fellow, supported by the Resident Research Training Grant in the Department of Otolaryngology–Head and Neck Surgery at Johns Hopkins University School of Medicine (NIH, T32 DC00027); Mallinckrodt Resident Research Award for the top-scoring resident research proposal (06/00): “Investigation of the Three-Dimensional Vesibulo-ocular Reflex”  
*Current position:* Associate Professor, Department of Otolaryngology–Head and Neck Surgery, University of Colorado Health Sciences Campus

**Iee Ching Wu Anderson**, 07/00–06/01, Medical student research project: “Hearing outcome following intratympanic gentamicin”; recipient of a Denison Medical Student Research Award from the Johns Hopkins University School of Medicine  
*Current position:* Deceased (previously Instructor, Department of Otolaryngology–Head and Neck Surgery, Massachusetts Eye and Ear Infirmary and Harvard Medical School)

**El-Saied Thabet, M.D.**, 05/00–04/02, Postdoctoral Fellow, supported by the government of Egypt for studies in clinical vestibular assessment  
*Current position:* Neuro-otologist in Cairo, Egypt

**Timo P. Hirvonen, M.D., Ph.D.**, 08/00–06/02, Postdoctoral Fellow, supported by research grants from the government of Finland and by the Research Fund of the American Otological Society  
*Current position:* Chief Physician, Helsinki University Central Hospital

**Americo Migliaccio, Ph.D.**, 02/02–12/03, Postdoctoral Fellow, supported by a postdoctoral fellowship grant from Advanced Bionics, Inc.  
*Current position:* Associate Professor and Head of Balance and Vision Laboratory, Neuroscience Research Australia

**Michael Schubert, Ph.D.**, 08/02–11/04, Postdoctoral Fellow, supported by the Resident Research Training Grant in the Department of Otolaryngology–Head and Neck Surgery at Johns Hopkins University School of Medicine (NIH, T32 DC00023)  
*Current position:* Associate Professor, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine

**Hong Ju Park, M.D.**, 05/03–11/04, Postdoctoral Fellow, supported by Seoul National University College of Medicine

*Current position:* Associate Professor, Department of Otolaryngology–Head and Neck Surgery, Konkuk University School of Medicine, South Korea

**Gyu Cheol Han, M.D.**, 03/05–08/07, Postdoctoral Fellow, supported by Gachon Medical School, South Korea

*Current position:* Associate Professor, Department of Otolaryngology, Gachon University of Medicine and Science, Gil Medical Center in Incheon, South Korea

**Miriam S. Welgampola, M.D., Ph.D.**, 08/06–02/07, Postdoctoral Fellow, supported by the Garnett Passe and Rodney Williams Memorial Foundation of Australia

*Current position:* Associate Professor, University of Sydney School of Medicine in Sydney, Australia

**Kyu-Sung Kim, M.D.**, 08/06–07/07, Postdoctoral Fellow, supported by Inha University College of Medicine

*Current position:* Assistant Professor, Department of Otorhinolaryngology–Head and Neck Surgery, Inha University College of Medicine in Incheon, South Korea

**Benjamin T. Crane, M.D., Ph.D.**, 07/07–06/09, Resident in Neurotology in the Department of Otolaryngology–Head and Neck Surgery at Johns Hopkins University School of Medicine

*Current position:* Associate Professor, Department of Otolaryngology–Head and Neck Surgery, University of Rochester School of Medicine

**Munetaka Ushio, M.D.**, 01/08–12/09, Postdoctoral Fellow from the University of Tokyo

*Current position:* Assistant Professor, Department of Otolaryngology–Head and Neck Surgery, Tokyo University School of Medicine

**Jae-Ho Ban, M.D., Ph.D.**, 07/08–06/09, Postdoctoral Fellow from Kangbuk Samsung Medical Center in Seoul, Korea

*Current position:* Deceased (previously Associate Professor, Department of Otolaryngology, Kangbuk Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea)

### ***Clinical Fellows in Otology and Neurotology***

**Drew Horlbeck, M.D.**, 07/99–06/01

*Current position:* Otolaryngologist, Division of Pediatric Otolaryngology, Department of Surgery, Nemours Hospital in Jacksonville, Florida

**Yael Raz, M.D.**, 01/02–06/02

*Current position:* Assistant Professor, Department of Otolaryngology–Head and Neck Surgery, Oregon Health & Science University School of Medicine

**David Friedland, M.D., Ph.D.**, 07/01–06/02

*Current position:* Professor, Vice-Chair, and Chief of the Division of Otology and Neuro-otologic Skull Base Surgery and of the Division of Research, Department of Otolaryngology and Communication Sciences, Medical College of Wisconsin

**Daniel J. Lee, M.D.**, 07/01–06/02

*Current position:* Associate Professor and Director of Pediatric Otolaryngology and Neurotology, Department of Otolaryngology and Laryngology, Harvard Medical School and Massachusetts Eye and Ear Infirmary

**Timothy E. Hullar, M.D.**, 01/03–07/03

*Current position:* Professor, Director of Otolaryngology, Neurotology, and Skull Base Surgery, and Director of the Cochlear Implant Program, Department of Otolaryngology–Head and Neck Surgery, Oregon Health & Science University School of Medicine

**Charles J. Limb, M.D.**, 01/03–07/03

*Current position:* Francis A. Sooy, M.D., Professor, Chief of Otolaryngology, Neurotology, and Skull Base Surgery, and Director of the Douglas Grant Cochlear Implant Center, Department of Otolaryngology–Head and Neck Surgery, University of California, San Francisco School of Medicine

**Charles-André Haenggeli, M.D.**, 07/01–06/03

*Current position:* Otolaryngologist, Department of Otolaryngology, University of Geneva

**Benjamin T. Crane, M.D., Ph.D.**, 07/07–06/09

*Current position:* Associate Professor, Department of Otolaryngology–Head and Neck Surgery, University of Rochester School of Medicine

**C. Matthew Stewart, M.D., Ph.D.**, 07/08–06/10

*Current position:* Assistant Professor, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine

### ***Training Grants, Investigator***

“Training Program in Auditory Neurophysiology”, Department of Biomedical Engineering, Johns Hopkins University (NIH T32 DC00023), 07/00–08/12

“Neuroscience Training Program”, Department of Neuroscience, Johns Hopkins University (NIH T32 MH20062), 07/99–08/12

“Research Training in Otolaryngology”, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine (NIH T32 DC00027), 07/99–06/04

“Research Training in Otolaryngology”, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine (NIH T32 DC00027), 07/04–08/12

## **EDITORIAL ACTIVITIES**

### ***Editorial Board Member***

*Otology & Neurotology* (1993–present)

*Journal of Vestibular Research* (1996–1998)

*Otolaryngology–Head and Neck Surgery* (1997–2003)

*Experimental Brain Research* (2001–2018)  
*Audiology & Neuro-Otology* (2002–2011; associate editor in 2005–2011)  
*Annals of Otology, Rhinology, and Laryngology* (2004–2005)

### ***Invited Reviewer***

*Acta Otolaryngologica*  
*Annals of Neurology*  
*Annals of Otology, Rhinology, and Laryngology*  
*Archives of Otolaryngology–Head and Neck Surgery*  
*Brain Research*  
*Clinical Neurophysiology*  
*Ear & Hearing*  
*Hearing Research*  
*Journal of the Association for Research in Otolaryngology*  
*Journal of Neurophysiology*  
*Journal of Neuroscience*  
*Laryngoscope*  
*Nature*  
*Neurology*

### **CLINICAL ACTIVITIES**

Physician and Surgeon, State of California, Certificate no. G89226  
Physician and Surgeon, State of Maryland, Certificate no. D44437  
Diplomate, National Board of Medical Examiners, Certificate no. 262073, 07/83  
Diplomate, American Board of Otolaryngology, 03/93  
Subspecialty Certificate in Neurotology, American Board of Otolaryngology, Certificate no. 4196,  
05/25/04–06/30/14. Passed the 2012 American Board of Otolaryngology Maintenance of  
Certification Part III examination, Neurotology certificate is valid from 06/30/14–06/30/24.

### **ORGANIZATIONAL ACTIVITIES**

#### ***Institutional Administrative Appointments***

1. Clinical Efficiency Committee, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, 01/98–12/99
2. Director, Laboratory of Vestibular Neurophysiology, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, 07/97–08/12
3. Director, Fellowship Training Program in Otology and Neurotology, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, 07/99–06/03

4. Representative from the Department of Otolaryngology–Head and Neck Surgery to the Johns Hopkins Joint Committee on Clinical Investigation for Protocol Re-review, 07/01–06/03
5. Performance Improvement Officer for the Department of Otolaryngology–Head and Neck Surgery, 04/02–10/03
6. Member, Search Committee for the Directorship of the Department of Ophthalmology at the Johns Hopkins University School of Medicine, 07/02–02/03
7. Member, Search Committee for the Directorship of the Department of Anesthesiology and Critical Care Medicine at the Johns Hopkins University School of Medicine, 04/03–09/03
8. Chair, Practice Management Committee, Clinical Practice Association, Johns Hopkins University School of Medicine, 08/05–09/09
9. Member, Agenda Committee of the Advisory Board of the Medical Faculty for the Johns Hopkins University School of Medicine, 09/05–06/08
10. Member, Professorial Promotions Committee, Johns Hopkins University School of Medicine, 09/05–08/09
11. Chair, Search Committee for Director of the Department of Biomedical Engineering, Johns Hopkins University School of Medicine, 12/05–02/07
12. Member, Board of Governors of the Clinical Practice Association of the Johns Hopkins University School of Medicine, 07/06–08/09
13. Member, Standing Committee on Discipline of the Johns Hopkins University School of Medicine, 06/07–08/09
14. Chair, Administrative Committee of the Medical Board, Johns Hopkins Hospital, 07/08–08/09
15. Chair, Search Committee for the Dean of the Krieger School of Arts and Sciences of Johns Hopkins University, 10/09–04/10
16. Chair, Search Committee for the Dean of the School of Education of Johns Hopkins University, 10/09–05/10
17. Advisor to the Search Committee for the Director of the Johns Hopkins Applied Physics Laboratory, 02/10–06/10
18. Co-Chair, Search Committee for the Dean of the Johns Hopkins University School of Medicine and CEO of Johns Hopkins Medicine, 06/11–12/11
19. Chair, Search Committee for the Dean of Carey Business School of Johns Hopkins University, 06/11–05/12

20. Chair, Search Committee for the Dean of the Paul H. Nitze School of Advanced International Studies (SAIS) of Johns Hopkins University, 10/11–03/12
21. Stanford Health Care Board of Directors, 12/12–present
22. Lucile Packard Children’s Hospital Stanford Board of Directors, 12/12–present
23. Lucile Packard Foundation for Children’s Health Board of Directors, 12/12–present
24. Stanford Health Care–ValleyCare Board of Directors, 09/14–09/17
25. Co-Chair (with Chair of Stanford Health Care Board of Directors), Search Committee for the President and CEO of Stanford Health Care, 10/15–14/16
26. Member, Search Committee for the President and CEO of Lucile Packard Foundation for Children’s Health, 12/17–06/18
27. Co-Chair, Search Committee for the President and CEO of Lucile Packard Children’s Hospital Stanford, 03/18–present

***Membership in Professional Societies***

American Academy of Otolaryngology–Head and Neck Surgery, Fellow  
 American College of Surgeons, Fellow (Inducted 10/98)  
 Bárány Society  
 Association for Research in Otolaryngology  
 Society for Neuroscience  
 American Neurotology Society  
 American Otological Society (Inducted 05/01)  
*Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum* (Elected 2004)  
 Triological Society (Inducted 05/05)

***Committee Membership and Leadership Positions in Professional Societies***

Program Committee, Association for Research in Otolaryngology, 02/00–02/04  
 Award of Merit Committee, Association for Research in Otolaryngology, 02/03–02/06  
 President, Association for Research in Otolaryngology, 03/05–02/06  
 Executive Secretary, Research Fund of the American Otological Society, 04/03–06/09  
 Member, Review Committee for Otolaryngology, Accreditation Council on Graduate Medical Education, 08/10–06/16

### ***Conference Organizer, Session Chair***

1. Course Co-Director, “Clinical Management of Common Auditory and Vestibular Disorders”, Johns Hopkins Medical Institutions, 03/12/97–03/14/97
2. Chair of the session: “Vestibular Compensation and Adaptive Plasticity”, Conference on Vestibular Influences on Spatial Orientation, Society for the Neural Control of Movement; Princeville, Hawaii, 04/16/99–04/19/99
3. Chair of the session: “Superior Canal Dehiscence Syndrome”, XXII<sup>th</sup> Meeting of the Bárány Society; Seattle, Washington, 09/26/02–09/29/02
4. Course Organizer, “Vestibular System 101: Introduction to vestibular system structure and function for non-experts”, Association for Research in Otolaryngology Short Course, 02/22/03
5. Chair, Workshop on Electrical Stimulation of the Vestibular Nerve sponsored by the National Institute on Deafness and Other Communication Disorders, 06/03/04–06/04/04
6. Chair, Presidential Symposium: “Vestibular Mechanisms: Achieving Balance in the Ear”, Twenty-Ninth Annual Meeting of the Association for Research in Otolaryngology, 02/05/06
7. Chair, Symposium on Superior Semicircular Canal Dehiscence Syndrome, Twenty-Fourth Bárány Society Meeting; Uppsala, Sweden, 06/11/06–06/14/06
8. Chair, Section on Vestibular Function and Balance Disorders, NIDCD Workshop on Clinical Research and Clinical Trials in Otolaryngology: Setting the Research Agenda for Development of an Intervention; Bethesda, Maryland, 05/09/07–05/10/07
9. Chair, Roundtable Session on Controversies in the Treatment of Ménière’s disease, 6<sup>th</sup> European Congress of Oto-Rhino-Laryngology Head and Neck Surgery; Vienna, Austria, 06/30/07–07/04/07
10. Co-Chair, Symposium 1: Ménière and Related Diseases, XXV Bárány Society Meeting; Kyoto, Japan, 03/31/07–04/03/07
11. Co-Chair, Scientific Session 3: Vestibular Problems II, *Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum*, Berlin, Germany, 08/24/08–08/27/08
12. Moderator, Section II: Vestibular Topics, 44<sup>th</sup> Meeting of the American Neurotology Society; Phoenix, Arizona, 05/29/09–05/30/09
13. Moderator, Panel 2: Diagnosis and Treatment of Vestibular Disorders: Recent Advances and Future Directions, 142<sup>nd</sup> Meeting of the American Otological Society; Phoenix, Arizona, 05/29/09–05/30/09
14. Moderator, Panel on “Quality/Cost/Efficiency”, Society of University Otolaryngologists; Washington, DC, 11/07/09

15. Moderator, Panel on “Tensions and Conflicts Created by Decreasing Financial Resources for Academic Medicine”, Society of University Otolaryngologists; Sedona, Arizona, 11/13/10
16. Co-Chair of Roundtable, “Training in otology, what the future holds”, IFOS (International Federation of Oto-Rhino-Laryngological Societies) ENT World Congress; Paris, 06/26/17
17. Chair of Controversy, “Semicircular canal dehiscence”, IFOS (International Federation of Oto-Rhino-Laryngological Societies) ENT World Congress; Paris, 06/27/17
18. Chair of Symposium, “Semi-circular canal dehiscence syndrome”, IFOS (International Federation of Oto-Rhino-Laryngological Societies) ENT World Congress; Paris, 06/28/17
19. Conference Organizer, EHR National Symposium; Stanford, California, 06/04/18

***Advisory Committees, Review Groups***

1. Member, Behavioral and Neurosciences Special Emphasis Panel to review R03 applications, National Institute on Deafness and Other Communication Disorders, 06/95–06/96
2. Member, Behavioral and Neurosciences Special Emphasis Panel of the Hearing Research Study Section, National Institutes of Health, 12/95
3. Member, Programs Advisory Committee, National Institute on Deafness and Other Communication Disorders, 05/97–10/98
4. Chair, National Institute on Deafness and Other Communication Disorders Special Emphasis Panel, 07/98
5. Member, NASA Life Sciences Peer Review Panel for Developmental Biology (Flight- and Ground-Based Programs), 02/00
6. *Ad hoc* Reviewer, IFCN-5 Study Section of the National Institutes of Health, 02/00
7. Member, National Institute on Deafness and Other Communication Disorders Special Emphasis Panel for review of R03 applications, 03/00
8. Member, Special Emphasis Panel of NIH IFCN-6 Study Section for Review of Small Business Research Initiative applications, 12/99 and 04/00
9. Member, Subcommittee on Grants and Prizes, American Academy of Otolaryngology Head and Neck Surgery (first term: 01/00–06/02; appointed to second term: 07/02–06/05)
10. Member, Program Committee, Association for Research in Otolaryngology, 02/00–02/03
11. Member, National Institute on Deafness and Other Communication Disorders Special Emphasis Panel to Review R03 applications, 07/00

12. *Ad hoc* Reviewer, National Institutes of Health, Communication Disorders Review Committee, 06/01
13. *Ad hoc* Reviewer, National Institutes of Health, Communication Disorders Review Committee, 02/02
14. Member, Scientific Review Committee, Deafness Research Foundation, appointed for three-year term beginning 2002
15. Chair, Special Emphasis Panel, Integrative, Functional, and Cognitive Neuroscience Study Section, Group 4 (IFCN4), 08/02
16. Member, Scientific Review Group, Research Fund of the American Otological Society, appointed in 2002, Chair of the Scientific Review Group and Secretary-Treasurer of the Research Fund beginning in 2004
17. Member, National Institutes of Health Integrative, Functional, and Cognitive Neuroscience Study Section, Group 6 (IFCN6), term began with the meeting in 10/00
18. Chair, National Institutes of Health: Auditory Study Section (AUD: formerly referred to as Integrative, Functional, and Cognitive Neuroscience Study Section, Group 6), 10/03–06/05
19. Member, External Advisory Committee, Eye and Ear Research Foundation of the University of Pittsburgh Medical Center, 05/04
20. Member, External Advisory Committee appointed by the Dean of the Harvard Medical School to evaluate the Department of Otolaryngology at the Harvard Medical School, 06/04
21. Member, Advisory Panel, NASA Clinical Status Evaluation (CSE) Neurological Function Workshop, 12/04
22. Member, External Advisory Committee, Eye and Ear Research Foundation of the University of Pittsburgh Medical Center, 03/06
23. Member, Special Emphasis Panel, AUD Study Section of National Institutes of Health, 06/06
24. Member, Special Emphasis Panel to review Temporal Bone Consortium, National Institute on Deafness and Other Communication Disorders, 06/06
25. Member, External Advisory Committee appointed by the Dean of the Medical University of South Carolina to evaluate the Department of Otolaryngology–Head and Neck Surgery at the Medical University of South Carolina, 11/06
26. Member, Blue Ribbon Advisory Panel to the Deafness Research Foundation for Review of a Research Consortium on Regeneration Biology as Applied to the Inner Ear, 04/07
27. Chair, Special Emphasis Panel, IFCN-B for Auditory Neuroscience Study Section, Center for Scientific Review, National Institutes of Health, 10/07

28. Member, External Advisory Committee appointed by the Dean of Medicine of the University of Michigan School of Medicine to evaluate the Department of Otolaryngology–Head and Neck Surgery at the University of Michigan, 11/07
29. Member, External Advisory Committee appointed by the Baylor College of Medicine to evaluate the Department of Otolaryngology–Head and Neck Surgery at the Baylor College of Medicine, 04/08
30. Member, External Advisory Committee, Eye and Ear Research Foundation of the University of Pittsburgh Medical Center, 05/08
31. Chair, Special Emphasis Panel, IFCN-M for Member Conflicts: Physiology and Modeling, Center for Scientific Review, National Institutes of Health, 06/08
32. Member, Study Section for Member Conflicts of the Communication Disorders Review Committee, National Institutes of Health, 10/08
33. Member, Study Section for Member Conflicts of the Sensory Neurophysiology Study Sections (ZRG1 IFCN-C), National Institutes of Health, 04/09
34. Member, Study Section for Member Conflicts (ZRG1 IFCN E 03 M), National Institutes of Health, 06/10 and 01/11
35. Member, Study Section for Translational Grant Applications, National Institute on Deafness and Other Communication Disorders, 02/11
36. Member, Brown Medical School Committee, Brown University, 09/11–09/14
37. Member, The Blue Ridge Academic Health Group, 10/17–present

## AWARDS AND HONORS

Ross Clinician Scientist Award, Johns Hopkins University School of Medicine, support from 01/94–12/95

Recognized in “Top Docs” edition of *Baltimore Magazine*, November 1997, Otolaryngology/Dizziness

Young Investigator Award, Bárány Society, 1998

Nicholas Torok Vestibular Award, American Neurotology Society, 1999

Descriptions of work in the identification of the superior canal dehiscence syndrome have been published and described in the *Los Angeles Times* (02/22/99); *New Scientist* (02/27/99); *Hopkins Medical News* (Spring–Summer 1999); *Physician’s Practice Digest* (May/June 1999); *ABC News Primetime Medical Mysteries* (03/14/08); *BBC* (07/27/11); *NBC News* (08/04/11); *Scientific American* (09/01/11); interviews with Sirius/XM Channel 110 Doctor Radio Live (with Dr. Sean McMenemy) (01/13/16 and 05/16/18) and WHY? station in Philadelphia (03/14/16); and *Stanford Medicine* magazine (Fall 2016)

Honor Award, American Academy of Otolaryngology–Head and Neck Surgery, 2001

Hallpike-Nylén Prize, Bárány Society, 2006

Recognized in *America's Top Doctors*, Castle Connolly Ltd., Listed in the 2<sup>nd</sup> through the 8<sup>th</sup> editions, 2002–10

Gold Medal, Prosper Ménière Society, 2010

Elected to the National Academy of Medicine (formerly the Institute of Medicine) of the National Academies of Sciences, Engineering, and Medicine, 2012

Elected to Alpha Omega Alpha Honor Medical Society, 2014

Leadership Award, National Hispanic Health Foundation, 2015

Joseph Toynbee Memorial Medal from the Royal Society of Medicine in London and the Royal College of Surgeons of England (the highest honor the British otological community confers), 2015

#### **INVITED TALKS**

1. “Vestibular-nerve Inputs to the Vestibulo-ocular Reflex”, Division of Otolaryngology and Laryngology, Harvard University School of Medicine and Massachusetts Eye and Ear Infirmary, 06/91
2. “Vestibular-nerve Inputs to the Vestibulo-ocular Reflex: A Behavioral and Electrophysiological Study”, Division of Otolaryngology–Head and Neck Surgery, Stanford University Medical Center, 01/92
3. “Vestibular-nerve Inputs to the Vestibulo-ocular Reflex: A Behavioral and Electrophysiological Study”, Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, 03/92
4. “Vestibular-nerve Inputs to the Vestibulo-ocular Reflex: A Behavioral and Electrophysiological Study”, Department of Otolaryngology–Head and Neck Surgery, University of Michigan School of Medicine, 03/92
5. “Distinguishing Translational from Tilt Responses”, NASA Ames Research Center, 06/94
6. “Nonlinearities in Vestibulo-ocular Responses Following Unilateral Vestibular Deafferentation”, Center for Hearing and Balance, Johns Hopkins University School of Medicine, 01/96
7. “Signal Processing in the Vestibulo-ocular Reflex: From Vestibular-nerve afferents to the Oculomotor Plant”, Department of Otolaryngology and Communication Sciences, Department of Neuroscience, Baylor College of Medicine, 04/96

8. “Control of Balance on Earth and in Space”, Vestibular Dysfunction: Lessons and Legacies from Space, Symposium sponsored by the American Neurotology Society, American Academy of Otolaryngology–Head and Neck Surgery, and NASA, 09/96
9. “Tullio’s Phenomenon due to Dehiscence of the Superior Semicircular Canal”, Bobby R. Alford Department of Otolaryngology and Communication Sciences, Baylor College of Medicine, 01/97
10. “High-frequency Dynamics of the Horizontal Vestibulo-ocular Reflex”, Department of Neuroscience, Baylor College of Medicine, 11/97
11. “Dynamics of the Vestibulo-ocular Reflex in Response to High-Frequency, High-Acceleration Rotations” and “Sound- and/or Pressure-Induced Vertigo Due to Bone Dehiscence of the Superior Semicircular Canal”, Division of Otolaryngology–Head and Neck Surgery, University of Mississippi School of Medicine, 03/98
12. “Dynamics of the Horizontal Vestibulo-ocular Reflex Evoked by High-Frequency, High-Acceleration Rotations”, Laboratory of Sensorimotor Research, National Eye Institute, 04/98
13. “Intratympanic Gentamicin for Control of Vertigo in Ménière’s Disease” and “Superior Canal Dehiscence Syndrome”, Department of Otolaryngology, Universidad de Navarra; Pamplona, Spain, 04/98
14. “Vertigo in Patients with Dehiscence of Bone Overlying the Superior Semicircular Canal”, Department of Neurology, University of Zürich, 07/98
15. “Dynamics of the Vestibulo-ocular Reflex in Response to High-frequency, High-acceleration Rotations”, Department of Physiology, McGill University, 10/98
16. “Dynamics of the Vestibulo-ocular Reflex in Response to High-frequency, High-acceleration Rotations”, Bodian Seminar in the Zanvyl Krieger Mind/Brain Institute, Johns Hopkins University, 01/99
17. “Intratympanic Gentamicin for Control of Vertigo in Patients with Unilateral Ménière’s Disease” and “The Superior Canal Dehiscence Syndrome”, J. Floyd Kyser Otolaryngology Distinguished Lectureship, Department of Otolaryngology–Head and Neck Surgery, University of Arkansas for Medical Sciences, 06/99
18. “The Superior Canal Dehiscence Syndrome”, Otoneurology ’99 International Symposium in Florence, Italy sponsored by the Università Degli Studi di Firenze and Università Degli Studi di Pavia, 07/99
19. “Physiological Mechanisms Responsible for Asymmetries in the Vestibulo-ocular Reflex after Unilateral Vestibular Lesions”, “The Superior Canal Dehiscence Syndrome”, and “Intratympanic Gentamicin for Control of Vertigo in Patients with Unilateral Ménière’s Disease”, invited guest speaker at the annual meeting of the Neuro-otology Society of Australia in Sydney, 11/99
20. “Dynamics of the Vestibulo-ocular Reflex Evoked by High-Frequency, High-Acceleration Rotations”, Department of Physiology and Biophysics, Mt. Sinai School of Medicine, 01/00

21. “Bedside Testing of the Patient with Dizziness”, Clinical Symposium, Association for Research in Otolaryngology, 23<sup>rd</sup> Midwinter Meeting; St. Petersburg Beach, Florida, 02/00
22. “Pitfalls in the Assessment of Patients with Dizziness” and “Differentiation between Central and Peripheral Vertigo”, 25<sup>th</sup> Middle East Medical Assembly, The American University of Beirut; Lebanon, 05/00
23. “Superior Semicircular Canal Dehiscence Syndrome”, Department of Otolaryngology, University of Athens, 05/00
24. “Superior Canal Dehiscence Syndrome”, 21<sup>st</sup> Meeting of the Bárány Society; Uppsala, Sweden, 06/00
25. “Superior Canal Dehiscence Syndrome”, Grand Rounds, Department of Neurology, Case Western Reserve University; Cleveland, Ohio, 10/00
26. “Linear and Nonlinear Pathways Mediating Angular Vestibulo-ocular Reflexes”, Department of Neurology, Royal Prince Alfred Hospital and Department of Psychology, University of Sydney; Australia, 12/00
27. “Superior Canal Dehiscence Syndrome” and “Effects of labyrinthine lesions on the Vestibulo-ocular reflex”, Visiting Professor, Department of Otolaryngology–Head and Neck Surgery, University of California, San Francisco, 01/01
28. “Superior Canal Dehiscence Syndrome”, Division of Otolaryngology, UMDNJ—New Jersey Medical School, 02/01
29. “Neural Substrates for Linear and Nonlinear Pathways Involved in Control of the Angular Vestibulo-ocular Reflex”, invited speaker in the symposium entitled, “The Vestibular Periphery as a Model System: Genetics, Sensory Encoding & Regeneration”, 24<sup>th</sup> Annual Midwinter Meeting of the Association for Research in Otolaryngology; St. Petersburg Beach, Florida, 02/01
30. “Linear and Nonlinear Pathways Mediate the Angular VOR Evoked by High-frequency, High-acceleration Rotations”, invited speaker at the symposium on “The Vestibular and Oculomotor Systems: Basic Mechanisms and Clinical Applications”; Seon, Germany, 03/01
31. “Evaluation of Vestibular Function in Ménière’s Disease”, Ben Senturia Lecture, Department of Otolaryngology–Head and Neck Surgery, Washington University School of Medicine, 09/01
32. “Neural Pathways Responsible for Gaze Stability During Rapid Head Movements: Afferent Physiology and the Vestibulo-ocular Reflex”, speaker in the session entitled, “Vestibuloocular Reflex Dynamics: A Model System from Slices to Neural Circuits to Behavior”, Twelfth Annual Meeting of the Neural Control of Movement Society; Naples, Florida, 04/02
33. “Superior Canal Dehiscence Syndrome”, Grand Rounds, Department of Otolaryngology, University of Michigan, 04/02

34. “Neural Pathways Responsible for Gaze Stability During Rapid Head Movements”, Kresge Hearing Research Institute, University of Michigan, 04/02
35. “Evaluation of Vestibular Function in Ménière’s Disease”, invited guest speaker at the Second Annual Faculty Research Day, Department of Otolaryngology, the University of Texas Medical Branch, 05/02
36. “Complementary Interactions Between Basic and Clinical Research in the Vestibular System”, XXII<sup>th</sup> Meeting of the Bárány Society; Seattle, Washington, 09/02
37. “Auditory Manifestations of Superior Canal Dehiscence Syndrome”, Meeting of the International Tinnitus Forum in conjunction with the annual meeting of the American Academy of Otolaryngology–Head and Neck Surgery, 09/02
38. “Asymmetries in the Angular Vestibulo-ocular Reflex after Lesions of the Labyrinth”, Virginia Merrill Bloedel Hearing Research Center and Department of Otolaryngology–Head and Neck Surgery, University of Washington School of Medicine, 09/02
39. “Asymmetries in the Vestibulo-ocular Reflex following Vestibular Lesions”, Department of Neurology and Department of Physiology and Biophysics, Mt. Sinai School of Medicine, 12/02
40. “Disorders of the Vestibular System: Integrating Basic Mechanisms with Clinical Entities”, Short Course at the 26<sup>th</sup> Annual Midwinter Meeting of the Association for Research in Otolaryngology entitled “Vestibular System 101: Introduction to Vestibular System Structure and Function for Non-Experts”, 02/03
41. “Advances in Application of Vestibular Research to Clinical Practice”, Workshop at the 26<sup>th</sup> Annual Midwinter Meeting of the Association for Research in Otolaryngology entitled “Vestibular System Problems: Righting the Balance”, 02/03
42. “Responses of Vestibular-Nerve Afferents to High Frequency Head Movements”, Speaker in the session entitled, “Motor Control in Mice: Methodological Problems and Preliminary Data in Normal and Mutant Animals”, Thirteenth Annual Meeting of the Neural Control of Movement Society; Santa Barbara, California, 04/03
43. “Use of Intratympanic Steroids”, speaker in the session entitled, “Panel on Vestibular Disorders”, One Hundred and Thirty-Sixth Annual Meeting of the American Otological Society; Nashville, Tennessee, 04/03
44. “Angular Vestibulo-ocular Reflex Evoked by High-Frequency, High-Acceleration Rotations”, Laboratoire de Neurobiologie des Réseaux Sensori-moteurs, CNRS, Université René Descartes (Paris 5); Paris, 06/03
45. “Superior Semicircular Canal Dehiscence Syndrome”, ENT Department, Lariboisiere Hospital; Paris, 06/03

46. “Angular Vestibulo-ocular Reflex Evoked by High-Frequency, High-Acceleration Rotations”, Department of Otolaryngology–Head and Neck Surgery and Neuroscience Program, University of California at Davis, 07/03
47. “Evaluation of the Patient with Dizziness”, Sacramento ENT Society; Sacramento, California, 07/03
48. “Superior Semicircular Canal Dehiscence Syndrome”, Division of Otolaryngology–Head and Neck Surgery, University of California, San Diego, 10/03
49. “Superior Semicircular Canal Dehiscence Syndrome” and “Evaluation of the Patient with Dizziness”, Department of Otolaryngology–Head and Neck Surgery, University of Pittsburgh School of Medicine, 10/03
50. “Superior Semicircular Canal Dehiscence Syndrome” and “Evaluation of the Patient with Dizziness”, 10<sup>th</sup> Annual Maxwell Abramson Lecturer, Department of Otolaryngology–Head and Neck Surgery, College of Physicians and Surgeons, Columbia University, 06/04
51. “Superior Semicircular Canal Dehiscence Syndrome”, XXIII Meeting of the Bárány Society; Paris, 07/04
52. “Mechanisms of Vestibular Compensation” and “Recent Advances in the Treatment of Ménière’s disease, Department of Otolaryngology–Head and Neck Surgery, University of California at San Francisco, 11/04
53. “Evaluation of the Patient with Dizziness”, Translational Research Lecture, American Auditory Society 2005 Meeting, 03/05
54. “Update on Clinical Vestibular Physiology”, XXIX Annual Meeting of the Nordic ENT Association, 06/05
55. “Evaluation of the Patient with Dizziness” and “Superior Semicircular Canal Dehiscence Syndrome”, 13<sup>th</sup> Annual G. Douglas Hayden Otology Symposium, Department of Otolaryngology–Head and Neck Surgery, Virginia Commonwealth University, 06/05
56. “Update on Clinical Vestibular Physiology”, Dr. David Cyr Memorial Lecture, Boys Town National Research Hospital, 07/05
57. “Superior Semicircular Canal Dehiscence Syndrome: Clinical Manifestations and Basic Mechanisms”, Meeting in Honor of Dr. Bernhard J.M. Hess, Department of Neurology, University of Zürich, 07/05
58. “Adaptive Properties of the Vestibulo-ocular Reflex”, Department of Psychology and Program in Neuroscience, Seoul National University; Korea, 10/05
59. “The Head Thrust Sign: Clinical Manifestations and Basic Mechanisms”, 25<sup>th</sup> Politzer Society Meeting, Seoul, Korea, 10/05

60. “Superior Semicircular Canal Dehiscence Syndrome”, Department of Otorhinolaryngology, Fudan University; Shanghai, 10/05
61. “Superior Semicircular Canal Dehiscence Syndrome”, Ninth Annual McNally Memorial Lecture, Department of Otolaryngology, McGill University and Royal Victoria Hospital; Montreal, Canada, 10/05
62. “Basic and Clinical Research: Models of Success”, Conference on Research Education and Training in Otolaryngology sponsored by the American Academy of Otolaryngology–Head and Neck Surgery Foundation; Arlington, Virginia, 11/05
63. “Superior Canal Dehiscence Syndrome”, ‘La vertigine frequente’: II filo di Arianna nel labirinto della vestibologia”; Cassino, Italy, 12/05
64. “Mechanisms of attacks of vertigo in Ménière’s disease” and “Ménière’s disease and Migraine”, Hospital C.U.F. Infante Santo’s 6<sup>th</sup> Otolaryngology Meeting; Lisbon, Portugal, 02/06
65. “Superior Semicircular Canal Dehiscence Syndrome”, Session on “Brainstem Symptoms and Deficits of Oculomotor Control”, satellite symposium to the 16<sup>th</sup> Meeting of the Neural Control of Movement Society: “Neural Control of Abnormal Movement”; Key Biscayne, Florida, 04/06
66. “Superior Semicircular Canal Dehiscence Syndrome” and “Advances in the Diagnosis and Treatment of Ménière’s Disease”, 27<sup>th</sup> John Daley Day Visiting Professor, Department of Otolaryngology–Head and Neck Surgery, New York University Medical Center, 06/06
67. “How I Evaluate the Dizzy Patient” and “Superior Semicircular Canal Dehiscence Syndrome”, 12<sup>th</sup> British Academic Conference in Otolaryngology; Birmingham, England, 07/06. These presentations led to a feature article in ENT News (Minor, L.B. Superior semicircular canal dehiscence syndrome. ENT News 15: 68-69)
68. “Ménière’s Disease: Update on Aetiology and Treatment” and “Sensorineural Hearing Loss: Advances in Our Understanding of the Aetiology and Improved Treatment Options”, Frontiers in Otorhinolaryngology 2006, The Garnett Passe and Rodney Williams Memorial Foundation; Queensland, Australia, 07/06
69. “Superior Semicircular Canal Dehiscence Syndrome”, Metro Atlanta Otolaryngology Society and Department of Otolaryngology–Head and Neck Surgery at Emory University School of Medicine, 10/06
70. “Sensorineural Hearing Loss”, “Facial Nerve Dysfunction”, “Management of Acoustic Neuromas”, and “Superior Semicircular Canal Dehiscence Syndrome”, Hospital C.U.F. Infante Santo’s 7<sup>th</sup> Otolaryngology Meeting; Lisbon, Portugal, 04/07
71. “Information Encoded in the Responses of Vestibular-Nerve Afferents to Motion: What Does the Brainstem ‘Hear’ from the Labyrinth?” Presentation in the Satellite Symposium to the 17<sup>th</sup> Meeting of the Neural Control of Movement Society; Carmona, Spain. Title of the satellite symposium: “Neural Basis of Motor Learning and Performance: From Cell to Function”, 03/07

72. “Round Table Discussion of Modern Imaging in Otolaryngology and Neurotology”, 6<sup>th</sup> European Congress of Oto-Rhino-Laryngology Head and Neck Surgery; Vienna, 07/07
73. “Superior Canal Dehiscence Syndrome”, Keynote Lecture in Otolaryngology, 6<sup>th</sup> European Congress of Oto-Rhino-Laryngology Head and Neck Surgery; Vienna, 07/07
74. “Information Encoded in the Responses of Vestibular-Nerve Afferents to Motion: What Does the Brainstem ‘Hear’ from the Labyrinth? ”, Laboratoire de Neurobiologie des Réseaux Sensori-moteurs, CNRS, Université René Descartes (Paris 5); Paris, 07/07
75. “Update on Superior Semicircular Canal Dehiscence Syndrome” ENT Department, Lariboisiere Hospital; Paris, 07/07
76. “Vestibular Research: From Bench to Bedside”, research seminar in the course entitled, “Biology of the Inner Ear: Experimental and Analytical Approaches”, Marine Biological Laboratory; Woods Hole, Massachusetts, 08/07
77. “Superior Canal Dehiscence”, Presentation to the 31<sup>st</sup> Annual Congress and Nursing Symposium of the Society of Otorhinolaryngology and Head-Neck Nurses; Washington, DC, 09/07
78. “Navigating the Labyrinth of the Inner Ear: Achieving “Balance” as a Clinician Scientist”. Dean’s Lecture at the Johns Hopkins University School of Medicine, 03/08
79. “Navigating the Labyrinth of the Inner Ear: Vertigo and Hearing Loss Due to Superior Semicircular Canal Dehiscence Syndrome”, Eighth Annual Fernandez-Lindsay Lecture, Section of Otolaryngology, Department of Surgery, University of Chicago, 05/08
80. “Studies of Vestibular Function: Understanding and Treating Disorders of the Sixth Sense”, Department of Otolaryngology, 29<sup>th</sup> Morris S. Bender Lecture, Long Island Jewish Medical Center, 06/08
81. “Navigating the Labyrinth of the Inner Ear: Vertigo and Hearing Loss Due to Superior Semicircular Canal Dehiscence Syndrome”, Clinica Las Condes, Santiago, Chile, 07/08
82. “Ménière’s Disease”, Presentation to the Cincinnati ENT Society, 10/08
83. “Superior Canal Dehiscence Syndrome”, Grand rounds in the Department of Otolaryngology at the University of Cincinnati, 10/08
84. “Learning and Plasticity in the Vestibular System: The Physiology of Vestibular Compensation”, Grand Rounds in the Department of Neurology, Johns Hopkins University School of Medicine, 09/08
85. “Neurophysiology of the Vestibular System” Grand Rounds for the Intramural Branch of the National Institute on Deafness and Other Communication Disorders; Bethesda, Maryland, 12/08
86. “Diagnosis and Treatment of Ménière’s Disease”, Grand Rounds in the Department of Medicine, Johns Hopkins University School of Medicine, 02/09

87. “Learning and Plasticity in the Balance System: The Physiology of Vestibular Compensation” David Tomlinson Lecture, Department of Otolaryngology–Head and Neck Surgery, University of Toronto, 03/09
88. “Evaluation of the Patient with Dizziness”, “Benign Paroxysmal Positional Vertigo”, “Superior Semicircular Canal Dehiscence Syndrome”, “Treatment Options for Acoustic Neuroma”, “Update on the Diagnosis and Treatment of Ménière’s Disease” 27<sup>th</sup> Alexandria International Combined ORL Congress; Alexandria, Egypt, 04/09
89. “Learning and Plasticity in the Balance System: The Physiology of Vestibular Compensation” Mind-Brain Institute, The Johns Hopkins University, 04/09
90. “Superior Semicircular Canal Dehiscence Syndrome” and “Evaluation of the Patient with Dizziness” Elbyrne G. Gill Lectures, Virginia Society of Otolaryngology–Head and Neck Surgery, The Homestead; Virginia, 04/09
91. “Learning and Plasticity in the Balance System: The Physiology of Vestibular Compensation”, Fifth Annual Research Day, Department of Otolaryngology–Head and Neck Surgery, University Hospital Case Medical Center; Cleveland, Ohio, 05/09
92. “Abnormal Pressure Transmission in the Inner Ear due to Superior Semicircular Canal Dehiscence”, Round table discussion: Ménière’s disease – Inner ear pressure regulation out of control. 80<sup>th</sup> Annual Meeting of the German Ear, Nose, and Throat Society; Rostock, Germany, 05/09
93. “The Future of Innovation and Discovery in Neurotology”, William F. House Lecture, 44<sup>th</sup> Spring Meeting of the American Neurotology Society; Phoenix, Arizona, 05/09
94. “Superior Semicircular Canal Dehiscence Syndrome” and “Update on the Treatment of Ménière’s Disease”, J. Floyd Kyser, M.D. Distinguished Lecture, Department of Otolaryngology–Head and Neck Surgery, University of Arkansas for Medical Sciences, 06/09
95. “Superior Canal Dehiscence Syndrome”, Invited talk at symposium on The Future of Otology & Neurotology, Silverstein Institute and Ear Research Foundation; Sarasota, Florida, 01/10
96. “International Trends in the Evolution of Health Care Delivery and Financing: From Bismarck to Beveridge to ‘The Blues’”, Keynote speaker, Prosper Ménière Society: 14<sup>th</sup> International Symposium and Workshop on Inner Ear Medicine and Surgery, 03/10
97. “Superior Semicircular Canal Dehiscence Syndrome”, Invited talk at the 28<sup>th</sup> Annual Otolaryngology Scientific Forum, Wayne State University, 04/10
98. “Higher and Healthier Education for a New Era”, Ruth B. Sauber Lecture, Brown University, 05/10
99. “Discovery and Innovation: Lessons Learned from Superior Canal Dehiscence Syndrome”, 2010 Otolaryngology Research Forum, University of Rochester, 06/10

100. “Bismarck, Beveridge, and the Blues”, John L. Kemink Memorial Lecture, and “Diagnosis and Treatment of Vestibular Disorders”, 26<sup>th</sup> Annual Summer Meeting of the Michigan Otolaryngological Society, 07/10
101. “Unidirectional Rotations in Macaques Produce Asymmetric Changes in Gain of the Horizontal VOR Before and After Unilateral Labyrinthectomy”, The Vestibular System: Current Research and Future Directions, Satellite Symposium to the 26<sup>th</sup> Bárány Society Meeting in Honor of Jay Goldberg, 08/10
102. “International Trends in Health Care Delivery and Financing: Bismarck, Beveridge, and the Blues”, Plenary session talk at the *Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum*, Budapest, Hungary, 08/10
103. “Bismarck, Beveridge, and the Blues”, Invited speaker at the Bologna, Italy Campus of the Paul H. Nitze School of Advanced International Studies (SAIS), Johns Hopkins University, 10/10
104. “Advances in the Diagnosis and Treatment of Vestibular Disorders”, Hôpital Américain de Paris: The Best of ORL 2010; Paris, 10/10
105. “Diversity and Inclusion: Fulfilling the Promise of Johns Hopkins”, Seventh Annual Diversity Conference of Johns Hopkins University; Baltimore, 11/10
106. “Mechanisms of Adaptive Plasticity in the Vestibulo-ocular Reflex after Unilateral Loss of Labyrinthine Function”, Department of Psychological and Brain Sciences, Krieger School of Arts and Sciences, Johns Hopkins University, 12/10
107. “At What Cost: Charting the Future of the American Research University”, Address at the Paul H. Nitze School of Advanced International Studies (SAIS), Johns Hopkins University; Washington, D.C., 03/11
108. “The Academic Medical Center in the Era of Accountability”, Johns Hopkins Bayview Medical Center Leadership Seminar Series; Baltimore, 06/11
109. “The Three C’s of Innovation: Combination, Collaboration, and Chance”, Johns Hopkins Applied Physics Laboratory; Laurel, Maryland 06/11
110. “Superior Semicircular Canal Dehiscence Syndrome”, Michael E. Glasscock, III Lecture, Department of Otolaryngology, Vanderbilt University School of Medicine, 10/11
111. “Gilman’s Legacy: Ph.D. Education and the Making of the Modern University”, Johns Hopkins University Conference on the Future of Ph.D. Education; Baltimore, 10/11
112. “Moving Academic Medicine Forward: From Medicine to Health”, Medical Grand Rounds, Johns Hopkins University School of Medicine, 11/11
113. “Launching Pads, Not Hurdles” and “Promoting the Science of Learning”, Johns Hopkins University Gateway Sciences Initiative Symposium on Teaching Excellence; Baltimore, 01/12

114. “The Social Determinants of Health”, Provost’s Symposium on the Social Determinants of Health, 05/12
115. “Innovation and Creativity in Scientific Research”, Moving Academic Medicine Forward: A Conference in Honor of Edward D. Miller, M.D., 06/12
116. “Using Technology to Enhance Physician Lifelong Learning”, Blue Ridge Academic Health Group Annual Meeting, 08/12
117. “Complexity as a Driver of Innovation and Discovery: Lessons Learned from the Vestibular System”, Department of Otolaryngology–Head and Neck Surgery Grand Rounds, Stanford University School of Medicine, 10/12
118. “Treatment of Vestibular Disorders”, Stanford Otology Course, 11/12 and 11/14
119. “Transforming Patient Care Through Innovation”, San Francisco Surgical Society, 03/13
120. “Navigating the Labyrinth of the Inner Ear: Achieving ‘Balance’ as a Clinician Scientist”, Stanford Bio-X Seminar Series, 06/13
121. “Master Class on Leadership”, Stanford Medicine X, 09/13, 09/14, 09/15, and 09/17
122. “External Forces and Internal Dynamics affecting Medical Schools in their Relations with the Rest of their University”, FRESH-Thinking Workshop on Reforming Medical Education, Stanford Institute for Economic Policy Research (SIEPR), 10/13
123. “The Academic Medical Center in the Century of Biomedicine”, 8th Sino-US Symposium on Medicine in the 21st Century; Shanghai, 11/13
124. “Superior Canal Dehiscence Syndrome”, UCSF Otolaryngology Update Course, 11/13
125. “The Academic Medical Center in the Century of Biomedicine”, UCSF Otolaryngology Update Course, 11/13
126. “The Academic Medical Center in the Century of Biomedicine”, Department of Otolaryngology–Head and Neck Surgery Grand Rounds, Northwestern University Feinberg School of Medicine, 02/14
127. “ACGME’s Next Accreditation System for Otolaryngology Programs”, Department of Otolaryngology–Head and Neck Surgery Grand Rounds, Stanford University School of Medicine, 03/14
128. “The Academic Medical Center in the Century of Biomedicine”, Oracle Industry Connect, 03/14
129. “Principles of Leadership in Academic Medicine”, Stanford Executive Briefings, 05/14
130. “Acute Vestibular Syndromes”, Department of Emergency Medicine Grand Rounds, Stanford University School of Medicine, 05/14

131. “Neurotology Under the Affordable Care Act: What We Can Expect”, American Neurotology Society, 05/14
132. “The Academic Medical Center in the Century of Biomedicine”, Polish Academy of Sciences International Conference; Warsaw, Poland, 06/14
133. “Principles of Leadership in Academic Medicine”, Polish Academy of Sciences International Conference; Warsaw, Poland, 06/14
134. “My Principles for Leadership in Academic Medicine”, Department of Otolaryngology–Head and Neck Surgery Graduation, University of Minnesota School of Medicine, 06/14
135. “Leading the Biomedical Revolution: The Expanded Role of Academic Medical Centers”, *Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum*; Istanbul, 08/14
136. “The Role of Academic Medicine in a Transforming Health Care Environment”, California Healthcare Institute, 11/14
137. “AMC 2.0: Alignment-Driven Innovation”, Inaugural Lloyd B. Minor, M.D., Lecture at Johns Hopkins University, 02/15
138. “Leading the Biomedical Revolution in Precision Health: How Stanford Medicine Is Developing The Next Generation Of Health Care”, World Medicine Summit; Macau and Chinese Medical Association Conference; Chongqing, 07/15
139. “Leading the Biomedical Revolution in Precision Health: How Stanford Medicine Is Developing the Next Generation of Health Care”, H. Bryan Neel III, M.D., Ph.D., Distinguished Research Lecture, American Academy of Otolaryngology–Head and Neck Surgery Foundation Annual Meeting; Dallas, 09/15
140. “From Little Rock to Leadership: Answering the Clarion Call for Diversity”, UC Davis Pre-Medical and Pre-Health Professions Conference, 10/15
141. “My Innovation Journey: From Lab to Leadership”, Joseph Toynbee Memorial Lecture, Royal Society of Medicine in London, 11/15
142. “Navigating Complexity and Change: Principles of Leadership”, King’s College London, 11/15
143. “The Search for Cures Leads to Silicon Valley” panel, Milken Institute Global Conference; Los Angeles, 05/16
144. “Precision Health vs. Precision Medicine”, National Institute of Nursing Research Boot Camp on “Precision Health: From ‘Omics’ to Data Science”; Bethesda, Maryland, 07/16
145. “Empowering Patients and Caregivers in the Digital Revolution”, World Health Summit; Berlin, 10/16

146. “The Indispensable Role of Academic Medical Centers”, Peking University–Stanford Joint Forum on “Building World-Class Universities: An Institutional Perspective”; Beijing, 11/16
147. “New Frontiers in Preventive Medicine: From Faster Cures to Faster Health” panel, Partnering for Cures; New York City, 11/16
148. “Finding Superior Canal Dehiscence Syndrome”, Michael E Glasscock, III, MD Symposium in Otolology and Neurotology; Nashville, 11/16
149. “Introduction and Strategies of Precision Health”, Association of Academic Health Centers (AAHC) Annual Research Meeting; Washington, D.C., 12/16
150. “Implications of Precision Health”, Conley Symposium on Humanity and Medicine; Baltimore, 12/16
151. “In Search of Precision Health” Panel, *Fortune* Brainstorm Health; San Diego, 05/17
152. “Lloyd B. Minor, MD Fireside Chat with *Bloomberg’s* Caroline Chen”, BIO International Convention; San Diego, California, 06/17
153. “WellMD: Creating an Organizational Foundation for Joy in Medicine”, Blue Ridge Academic Health Group; Sea Island, Georgia, 06/17
154. “Science and Fundraising”, George C. Marshall Symposium; Austria, 07/17
155. “Precision Health: To Predict, Prevent, and Cure — Precisely”, Sheba Medical Center; Israel, 07/17
156. “Vestibular Efferents”, research seminar in the course entitled, “Biology of the Inner Ear: Experimental and Analytical Approaches”, Marine Biological Laboratory; Woods Hole, Massachusetts, 08/17
157. “Are Data and Analytics the New Medicine?” Panel, Royal College of Physicians; London, 09/17
158. Precision Health: Predict, Prevent, and Cure Precisely”, “From the Laboratory to the Clinic: Immune-Tissue Cell Interactions” Conference; Oxford, England, 09/17
159. “The Changing Landscape of Philanthropy: Impact on Biomedical Research”, Vizient University Health System Consortium CEO Executive Board Meeting; Denver, 09/17
160. “Lloyd B. Minor, MD Keynote Interview with David Crow, *Financial Times* Senior US Business Correspondent”, FT Digital Health Summit; New York, New York, 10/17
161. “An Action Agenda: How Organizations are Promoting Joy in Practice” Panel, American Conference on Physician Health; San Francisco, 10/17
162. “Turning Data into Action” Panel, Rock Health Summit; San Francisco, 10/17
163. “10 Things I Know to Be True”, Google Talk; Mountain View, California, 10/17

164. “P4C Unplugged with Mike Milken”, Partnering for Cures; San Francisco, 11/17
165. “Superior Canal Dehiscence Syndrome”, Stanford University Department of Medicine Grand Rounds; Stanford, California, 01/18
166. “Three Challenges that will Define our Future” Panel, J.P. Morgan Healthcare Conference; San Francisco, 01/18
167. “From Bench to Boardroom: Perspectives on Commercializing Research in Otolaryngology”, Association for Research in Otolaryngology Presidential Symposium; San Diego, 02/18
168. “In Defense of Science” Panel, *Fortune* Brainstorm Health; Laguna Niguel, California, 03/18
169. “Precision Health vs. Physician Burnout”, Human Intelligence and Artificial Intelligence Symposium; Stanford, California, 04/18
170. “What is Precision Health?”, Northern California Chapter of the American College of Surgeons; Berkeley, California, 04/18
171. “From Patients to Populations: Leading the Precision Health Revolution”, Livongo; Mountain View, California, 04/18
172. “Unusual Suspects: Who Will Rescue Healthcare?” Panel, HLTH 2018 Conference; Las Vegas, 05/18
173. “Rapid Change or Linear Evolution: Where Will We Be a Year from Now?” Panel, LIGHT Forum; Stanford, California, 05/18
174. “Finding Balance as a Clinician Scientist: My Discovery of Superior Canal Dehiscence”, Weill Cornell Medicine Otolaryngology Grand Rounds; New York, New York, 05/18
175. “From Patients to Populations: Leading the Precision Health Revolution”, Weill Cornell Medicine Dean’s Distinguished Lecture; New York, New York, 05/18
176. “Artificial Intelligence and Analytics in Healthcare: How Can AHCs Prepare for the Growth of Artificial Intelligence”, Blue Ridge Academic Health Group; Napa Valley, California, 06/18
177. “Executive Forum: AI-powered Precision Medicine — Forging a Path to Personalized Health” Panel, American Hospital Association Leadership Summit; San Diego, 06/18
178. “Precision Health: Predicting, Preventing, and Curing Precisely in the Digital Age”, DN Capital/Silicon Valley Bank Roundtable on Precision Medicine and Health Trends; Menlo Park, California, 07/18
179. “Technology’s Precision Health Promise”, Stanford China Economic Forum; Beijing, 09/18
180. “Technology and the Future of Medicine”, SIEPR-San Si Workshop on Technology; Beijing, 09/18

## INVITED COMMENTARY

1. Minor, L.B. (1997). Utility of posturography in management of selected conditions that cause dizziness. American Journal of Otology 18: 113-115.
2. Minor, L.B. (2005). Ménière's disease and migraine. Archives of Otolaryngology–Head and Neck Surgery 131: 460.
3. Crane, B.T., Minor, L.B., and Carey, J.P. (2009). Virtual endoscopy has a limited role in the diagnosis of superior semicircular canal dehiscence. Otolaryngology–Head and Neck Surgery 140: 771.
4. “Leadership Speaks” Columns in *Change*, a forum for Johns Hopkins Medicine faculty and senior staff:
  - A primer on health care reform, 01/11
  - Medical liability reform, 05/11
  - The promise of accountable care, 09/11
  - Reforming health care delivery for chronic disease, 10/11
  - Confronting chronic diseases around the world, 11/11
  - In and out and back again: Broadening our mission to prevent hospital readmissions, 12/11
  - Prove it! Learning what works through comparative effectiveness research, 01/12
  - Wanted: \$300 billion, 02/12
  - Ensuring access by investing in graduate medical education, 03/12
  - Looking beyond medical care to the social determinants of health, 04/12
  - Moving academic medicine forward, 06/12
5. Minor, L.B. (2014, April 10). The humanities and medicine. *The Stanford Daily*
6. “National Strategy for Expanding Scientific Workforce Diversity: Developing an Action Plan”, National Institutes of Health (NIH) Webinar, 11/14
7. Minor, L.B. (2015). Foreword. In Roberts, L.W., Reicherter, D., Adelsheim, S., and Joshi, S.V. (eds.), Partnerships for Mental Health: Narratives of Community and Academic Collaboration. Switzerland: Springer International Publishing, vii-x.
8. Minor, L.B. (2015, August 24). Innovation in medicine. *The Times of India*
9. Minor, L.B. (2016, January 6). We don't just need precision medicine, we need precision health. *Forbes*

10. Minor, L.B. (2017, March 3). The secret to getting young men to go to the doctor. *Wall Street Journal*
11. Minor, L.B. (2017, April 11). What being a doctor did – and didn't – teach me about leadership. *Wall Street Journal*
12. Minor, L.B. (2017, April 26). The medical world faces revolution, but must change its mindset to leverage it. *Fortune*
13. Minor, L.B. (2017, August 25). Doctors are burning out because electronic medical records are broken. *Quartz*
14. Minor, L.B. and Leaf, C. (2017, September 1). Brainstorm health: the biggest challenges in health care data. *Fortune*
15. Minor, L.B. (2017, September 12). How medical schools can better fight burnout. *Wall Street Journal*
16. Minor, L.B. (2017, October 20). How one small change helped people make healthier choices. *Wall Street Journal*
17. Sweeney, Evan. (2018, February 1). Stanford's Lloyd Minor on his expectations for the Apple Heart Study and leveraging Silicon Valley connections. *Fierce Healthcare*
18. Masselli, Mark and Flinter, Margaret (2018, February 6). Stanford Medicine Dean Lloyd Minor on Apple Heart Study, biomedical revolution and precision health. *Conversations on Health Care*
19. Minor, L.B. (2018, March 19). Commentary: How Silicon Valley can help fix our health care system. *Fortune*
20. (2018, April 21). Q&A with Stanford Dean Dr. Lloyd Minor on harnessing technology for future physicians. *Modern Healthcare*
21. Minor, L.B. (2018, April 29). How long do I have left? AI can help answer that question. *Wall Street Journal*
22. Minor, L.B. (2018, May 28). For children in the hospital, VR may be the cure. *Wall Street Journal*
23. Minor, L.B. (2018, June 5). What the first microscopes teach us about electronic health records. *Fortune*
24. Minor, L.B. (2018, September 18). One doctor's four simple steps for a healthier life. *Wall Street Journal*