

BIRTH: November 7, 1943; Resistencia, Chaco, Argentina

CITIZENSHIP: Argentina; legal residence: U.S.A.

MARRIAGE: Elsa L. Statzner; April 2, 1973

EDUCATION

The Catholic University of America, Washington, DC; B.A. (Biology), 1965

University of Chicago; Ph.D. (Physiology), 1972

University of Wisconsin (Madison), Postdoctoral (Neurophysiology), 1972-1975

HONORS

B.A. *cum laude*, The Catholic University of America, 1965

Neils Stensen Award for excellence in biology, The Catholic University of America, 1965

Phi Beta Kappa, The Catholic University of America, 1965

Sigma Xi, The Catholic University of America, 1965

E.E. Gellhorn Prize for excellence in neurophysiology, University of Chicago, 1971

NRSA (NIH) Postdoctoral Fellowship, University of Wisconsin, 1972-1975

Fellow, American Association for the Advancement of Science, 1999

Fellow, Acoustical Society of America, 2001

ACADEMIC APPOINTMENTS

June 1975 - November 1975

Research Associate,

Department of Neurophysiology, University of Wisconsin, Madison, WI

November 1975 - August 1993

Assistant Professor to Professor,

Department of Otolaryngology, University of Minnesota, Minneapolis, MN

September 1985 - August 1993

Member of the Graduate Program in Neuroscience, University of Minnesota, Minneapolis, MN

October 1992 - August 1993

Adjunct Professor,

Department of Communication Disorders, University of Minnesota, Minneapolis, MN

September 1996- September 2000

Head of former Audiology and Hearing Sciences Program (Department of Communication Sciences and Disorders)

September 1996- September 2003

Director of the Hugh Knowles Center

September 1993 - present

Professor & Hugh Knowles Professor of Hearing Sciences

Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL

September 1994 - present

Member of Graduate School Faculty, Northwestern University, Evanston, IL

December 1994 - present

Member of the Institute for Neuroscience, Northwestern University, Evanston, IL

ACADEMIC ACTIVITIES – COURSES (Northwestern University)

Signal, Systems and Acoustics for the Communication Sciences (COM SCI 401). Fall 2004-present.
Seminar on Research Methods in CSD (COM SCI 550-2), jointly taught (last time with Cynthia Thompson and Zstephen Zecker): weekly seminars, 2-hours each. Spring 2002-2005 and Fall 2006.

ACADEMIC ACTIVITIES – GUEST LECTURES AND TEAM-TAUGHT COURSES (Northwestern University)

Fundamentals of Neuroscience (NUIN 401): 3 2-hour lectures, Winter 1996 through present.
Measurement of Hearing II: The Auditory System (AUD 324): 1 2-hour lecture, Winter 1996 through present.
Neuroscience Seminar (NUIN 430): 1 1-hour lecture, Fall 1995; 1 0.5-hour lecture, Fall 1996 through present.
Noise and its Effects on People (AUD 417): 1 2-hour lecture, Fall 1997 through present.
Resident Education Lecture Series (Dept. of Otolaryngology, Medical School): 1-hour lecture, Spring 2001.
Seminar in Communication Sciences and Disorders (COM SCI 545-1): one 2-hour lecture, Fall 2001.
Seminar on Research Methods in CSD (COM SCI 545-2): two 2-hour seminars, Winter 2002.
Resident and Fellow Education Lecture Series (Dept. of Otolaryngology, Evanston Hospital): one 1-hour lecture, Spring 2002 & 2003.

ACADEMIC ACTIVITIES - SUPERVISION OF POSTDOCTORAL FELLOWS & RESEARCH ASSOCIATES

John A. Costalupes, Ph.D. (May 1985 - May 1987)
Baghyalakshmi G. Shivapuja, Ph.D. (April 1988 - November 1989)
Alberto Recio, Ph.D. (June 1993 – April 1997)
S. Shyamla Narayan, Ph.D. (July 1994 – May 2000)
Qin Gong, Ph.D. (February 2004 – April 2005)
Andrei Temchin, Ph.D. (May 1993 - present)
Yun-Hui Fan, Ph.D. (October 2003 – present)
Hongxue Cai, Ph.D. (July 2005 – present)

ACADEMIC ACTIVITIES - SUPERVISION OF GRADUATE STUDENTS

Edward H. Overstreet (Ph.D. Neuroscience, Univ. of Minnesota, 2000; September 1993 – June 2000)

ACADEMIC ACTIVITIES - MEMBERSHIP IN EXAMINING COMMITTEES AT UNIVERSITY OF MINNESOTA, 1984-1994:

Ph.D. final examination, R.L. Freyman, May 1984
Ph.D. preliminary written examination, T.W. Fortune, August 1984
M.A. final examination, J. Hemenway, May 1985
Ph.D. preliminary written examination, T. Rankovic, August 1986
Ph.D. preliminary oral examination, T. Rankovic, April 1987
Ph.D. preliminary written examination, D. Fabry, June 1987
Ph.D. preliminary oral examination, T.W. Fortune, October 1987
Ph.D. preliminary oral examination, D.E. Angelaki, February 1988
Ph.D. preliminary oral examination, D. Fabry, March 1988
Ph.D. final examination, D. Fabry, October 1988
Ph.D. preliminary written examination, B. Kimberley, December 1988
Ph.D. final examination, T. Rankovic, May 1989
Ph.D. preliminary oral examination, B. Kimberley, May 1989
Ph.D. final examination, T. W. Fortune, September 1989
Ph.D. final examination, B. Kimberley, June 1990
Ph.D. preliminary written examination, T. Crain, October 1990
Ph.D. preliminary oral examination, A.C. Schroder, May 1991
Ph.D. preliminary oral examination, D. Greenfield, May 1991
Ph.D. preliminary oral examination, T. Crain, May 1991
Ph.D. final examination, L. Shen, December 1991
Ph.D. final examination, T. Crain, December 1992
Ph.D. final examination, E. Strickland, January 1994
Ph.D. preliminary oral examination, E. H. Overstreet, April 1994

ACADEMIC ACTIVITIES - MEMBERSHIP IN EXAMINING COMMITTEES, 1995-PRESENT (Northwestern University, unless otherwise indicated):

Ph.D. final examination, Tien-Chen Liu, April 1996
Ph.D. final examination, Ellis Arjmand, May 1996
Ph.D. qualifying examination, Xintian Hu (Institute for Neuroscience), June 1996
Ph.D. qualifying examination, David Zeddies (Institute for Neuroscience), September 1996 & November 1997
Ph.D. qualifying examination, Laura Dreisbach, August 1997
Ph.D. final examination (Universidad de la República, Montevideo, Uruguay), José L. Peña, March 1998
Ph.D. final examination, Xintian Hu (Institute for Neuroscience), May 1998
Ph.D. final examination, Laura Dreisbach, January 1999
M.A. final examination, Amy Borneman, May 1999
Ph.D. final examination, Edward H. Overstreet (University of Minnesota, Minneapolis), May 2000
Ph.D. final examination, David Zeddies (Institute for Neuroscience), July 2001
Ph.D. qualifying examination, Rohima Badri, November 2002
M.A. final examination, Gagan Kumar, October 2003
Ph.D. qualifying examination, Amanda J. Cerka, October 2004
Ph.D. final examination, Jagan Pillai, June 2005
Ph.D. final examination, Rohima Badri, August 2005

JOURNAL EDITING/REFEREEING

Member of Editorial Board, *Audiology and Neuro-Otology* (1998 - present).
Member of Editorial Board, *JARO- Journal of the Association for Research in Otolaryngology* (2004 - 2007).
Associate Editor of *The Journal of Neuroscience* (1989-1995).
Frequent referee for:

Hearing Research
Journal of the Acoustical Society of America
Journal of Neurophysiology
The Journal of Neuroscience

Occasional referee for:

American Journal of Physiology: Cell Physiology
Auditory Neuroscience
Biophysical Journal
European Journal of Neuroscience
The Journal of Comparative Neurology
International Journal of Acoustics and Vibration
Journal of Electrophysiological Techniques
Journal of Physiology (London)
Nature
Nature Neuroscience
Neuroscience
Proceedings of the National Academy of Sciences of the USA
Science

MEMBERSHIP IN NATIONAL REVIEW BOARDS/GRANT REVIEWING

Member of Communication Disorders Review Committee, National Institute on Deafness and Other Communication Disorders (NIDCD), NIH: 1990-1994.
Ad-hoc member of various NIH Study Sections (most recent): ZRG1DIG-H 29L, 2007; ZRG1 F10 (29), 2002; ZRG1 IFCN-4 (06), 2002.
Grant reviewer for National Science Foundation (1978-1990);
Ad-hoc grant reviewer: Alberta Heritage Foundation for Medical Research (Alberta, Canada), 1989; Biotechnology and Biological Sciences Research Council (United Kingdom), 1996 & 1999; The Wellcome Trust (London, United Kingdom), 1999; The Royal Society (London, United Kingdom), 2000.

OTHER PROFESSIONAL ACTIVITIES

Member, Technical Committee on Psychological and Physiological Acoustics, Acoustical Society of America, 1980-1983, 1986-1989, 1989-1992, and 2004-2007.
Co-organizer (with P. Dallos, C. D. Geisler, J. W. Matthews and C. R. Steele) of the 1990 International Mechanics of Hearing Workshop, Madison, WI.
Member, Technical Program Organizing Committee and Local Committee, Fall 1984 Meeting of the Acoustical Society of America (Minneapolis).
Member, Program Committee of Association for Research in Otolaryngology (1996-1999).
Chair, Program Committee of Association for Research in Otolaryngology (1999-2001).

UNIVERSITY-WIDE COMMITTEES

Animal Care and Use Committee, Northwestern University (1994-2000)
General Faculty Committee, Northwestern University (2001-2004)

PROFESSIONAL AND HONOR SOCIETIES

Sigma Xi
Phi Beta Kappa
Acoustical Society of America
Association for Research in Otolaryngology
American Association for the Advancement of Science
American Association of University Professors

RESEARCH GRANT, CURRENT:

NIH, National Institute on Deafness and Other Communication Disorders, Grant R01-DC-00419: Peripheral Mechanisms of Hearing (1987-1992; 1992-1996; 1997-2002; 2002-2007). M. A. Ruggero (P.I.). Direct and indirect costs: \$472,672 in year 2006/2007.

RESEARCH GRANTS, PREVIOUS:

NIH, National Institute on Deafness and Other Communication Disorders, Grant P01-DC-00110 to University of Minnesota: Mechanisms of Auditory and Vestibular Dysfunction (1975-1980; 1980-1983; 1983-1988; 1988-1993; and 1993-1998). D. A. Nelson (P.D.). Dr. Ruggero's section: Peripheral Mechanisms of Deafness. Direct plus indirect costs for this section: \$161,219/year in 1997-1998.

Minnesota Medical Foundation: Mechanical Basis of Sensorineural Deafness (1989-1990). Total costs: \$ 18,000.

Lions 5M Hearing Research Endowment: Mechanical Basis of Sensorineural Deafness (1989-1990). Total costs: \$ 15,000.

National Science Foundation, Grant BNS-8304587: Peripheral Mechanisms of Hearing (1983-1987). M.A. Ruggero (P.I.). Direct costs: \$39,073/year.

Deafness Research Foundation: Multiple Fiber Sampling from the Auditory Nerves of Chinchillas Exposed to Intense Sounds: A Neural Cochleogram (1976 and 1977). Direct costs: \$10,000/year.

University of Minnesota Graduate School: Multiple Fiber Sampling from the Auditory Nerves of Chinchilla Exposed to Intense Sounds: A Neural Cochleogram (1976). Direct costs: \$12,000.

PUBLICATIONS

Articles

1. Ruggero, M. A. (1973). Response to noise of auditory nerve fibers in the squirrel monkey. *J. Neurophysiol.*, 36: 569-587.
2. Imig, T. J., Ruggero, M. A., Kitzes, L. M., Javel, E. and Brugge, J. F. (1977). Organization of auditory cortex in the owl monkey (*Aotus trivirgatus*). *J. Comp. Neurol.*, 171: 111-128.
3. Ruggero, M. A. (1980). Systematic errors in indirect estimates of basilar membrane travel times. *J. Acoust. Soc. Am.*, 67: 707-710.
4. Santi, P. A., Ruggero, M. A., Nelson, D. A. and Turner, C. W. (1982). Kanamycin and bumetanide ototoxicity: anatomical, physiological and behavioral correlates. *Hearing Res.*, 7: 261-279.
5. Ruggero, M. A., Santi, P. A. and Rich, N. C. (1982). Type II cochlear ganglion cells in the chinchilla. *Hearing Res.*, 8: 339-356.
6. Ruggero, M. A. and Rich, N. C. (1983). Chinchilla auditory nerve responses to low-frequency tones. *J. Acoust. Soc. Am.*, 73: 2096-2108.
7. Ruggero, M. A., Rich, N. C. and Freyman, R. (1983). Spontaneous and impulsively-evoked otoacoustic emissions: indicators of cochlear pathology? *Hearing Res.*, 10: 283-300.
8. Ruggero, M. A., Kramek, B. and Rich, N. C. (1984). Spontaneous otoacoustic emissions in a dog. *Hearing Res.*, 13: 293-296.
9. Ruggero, M. A., Robles, L. and Rich, N. C. (1986). Cochlear microphonics and the initiation of spikes in the auditory nerve: correlation of single-unit data with neural and receptor potentials recorded from the round window. *J. Acoust. Soc. Am.*, 79: 1491-1498.
10. Robles, L., Ruggero, M. A. and Rich, N. C. (1986). Basilar membrane mechanics at the base of the chinchilla cochlea. I. Input-output functions, tuning curves and response phases. *J. Acoust. Soc. Am.*, 80: 1364-1374.
11. Ruggero, M. A., Robles, L. and Rich, N. C. (1986). Basilar membrane mechanics at the base of the chinchilla cochlea. II. Responses to low-frequency tones and relationship to microphonics and spike initiation in the VIII-Nerve. *J. Acoust. Soc. Am.*, 80: 1375-1383.
12. Robles, L., Ruggero, M. A. and Rich, N. C. (1986). Mössbauer measurements of the mechanical response to single-tone and two-tone stimuli at the base of the chinchilla cochlea. In: *Peripheral Auditory Mechanisms*, ed. by J. B. Allen, J.L. Hall, A. Hubbard, S.T. Neely and A. Tubis, Springer Verlag, Berlin, pp. 121-128.
13. Ruggero, M. A., Robles, L., Rich, N. C. and Costalupes, J. A. (1986). Basilar membrane mechanics and spike initiation in the cochlear nerve. In: *Auditory Frequency Selectivity*, ed. by B.C.J. Moore and R.D. Patterson, Plenum, New York, pp. 189-196.
14. Costalupes, J. A., Rich, N. C. and Ruggero, M. A. (1987). Effects of excitatory and non-excitatory suppressor tones on two-tone rate suppression in auditory nerve fibers. *Hearing Res.*, 26: 155-164.
15. Ruggero, M. A. and Rich, N. C. (1987). Timing of spike initiation in cochlear afferents: dependence on site of innervation. *J. Neurophysiol.*, 58: 379-403.
16. Ruggero, M. A. and Rich, N. C. (1988). Responses of cochlear afferents to low-frequency tones: intensity dependence. In: *Auditory Pathway -- Structure and Function*, ed. by J. Syka and R.B. Masterton, Plenum, London, pp. 57-62.

17. Robles, L., Ruggero, M. A. and Rich, N. C. (1989). Nonlinear interactions in the mechanical response of the cochlea to two-tone stimuli. In: *Cochlear Mechanisms--Structure, Function and Models*, ed. by J.P. Wilson and D.T. Kemp, Plenum, N.Y., pp. 369-375.
18. Ruggero, M. A. and Rich, N. C. (1989). "Peak splitting": intensity effects in cochlear afferent responses to low frequency tones. In: *Cochlear Mechanisms--Structure, Function and Models*, ed. by J.P. Wilson and D.T. Kemp, Plenum, N.Y., pp. 259-266.
19. Ruggero, M. A., Rich, N. C., Robles, L. and Shivapuja, B. G. (1990). Middle ear response in the chinchilla and its relationship to mechanics at the base of the cochlea. *J. Acoust. Soc. Am.*, 87: 1612-1629.
20. Robles, L., Ruggero, M. A. and Rich, N. C. (1990). Two-tone distortion products in the basilar membrane of the chinchilla cochlea. In: *The Mechanics and Biophysics of Hearing*, ed. by P. Dallos, C.D. Geisler, J.W. Matthews, M.A. Ruggero and C.R. Steele, Springer Verlag, Berlin, Germany, pp. 304-311.
21. Ruggero, M. A. and Rich, N. C. (1990). Systemic injection of furosemide alters the mechanical response to sound of the basilar membrane. In: *The Mechanics and Biophysics of Hearing*, ed. by P. Dallos, C.D. Geisler, J.W. Matthews, M.A. Ruggero and C.R. Steele, Springer Verlag, Berlin, Germany, pp. 314-321.
22. Robles, L., Ruggero, M. A. and Rich, N. C. (1991). Two-tone distortion in the basilar membrane of the cochlea. *Nature*, 349: 413-414.
23. Ruggero, M. A. and Rich, N. C. (1991). Application of a commercially-manufactured Doppler-shift laser velocimeter to the measurement of basilar membrane vibration. *Hearing Res.*, 51: 215-230.
24. Ruggero, M.A. and Rich, N.C. (1991). Furosemide alters organ of Corti mechanics: evidence for feedback of outer hair cells upon the basilar membrane. *J. Neurosci.*, 11: 1057-1067.
25. Ruggero, M. A. and Semple, M. N. (1991). Acoustics, physiological. In: *Encyclopedia of Applied Physics*, ed. by G.L. Trigg, VCH Publishers, Weinheim, Germany, pp. 213-259.
26. Ruggero, M. A. (1992). Responses to sound of the basilar membrane of the mammalian cochlea. *Current Opinion in Neurobiol.*, 2: 449-456.
27. Ruggero, M. A., Robles, L., Rich, N. C. and Recio, A. (1992). Basilar membrane responses to two-tone and broadband stimuli. *Phil. Trans. Roy. Soc. Lond. B*, 336: 307-315.
28. Ruggero, M. A., Robles, L. and Rich, N. C. (1992). Two-tone suppression in the basilar membrane of the cochlea: mechanical basis of auditory-nerve rate suppression. *J. Neurophysiol.*, 68: 1087-1099.
29. Ruggero, M. A. (1992). Physiology and coding of sound in the auditory nerve. In: *The Mammalian Auditory Pathway: Neurophysiology*, ed. by A.N. Popper and R.R. Fay, Springer Verlag, New York, pp. 34-93.
30. Ruggero, M. A., Rich, N. C. and Recio, A. (1992). Basilar membrane responses to clicks. In: *Auditory Physiology and Perception*, ed. by Y. Cazals, L. Demany and K. Horner, Pergamon Press, London, pp. 85-91.
31. Ruggero, M. A., Robles, L., Rich, N. C. and Recio, A. (1992). Basilar membrane responses to two-tone and broadband stimuli. In: *Processing of Complex Sounds by the Auditory System*, ed. by R.P. Carlyon, C.J. Darwin and I.J. Russell, Oxford Univ. Press, pp. 13-20.
32. Ruggero, M.A. (1993). Distortion in those good vibrations. *Current Biology* 3: 755-758.
33. Ruggero, M. A., Rich, N. C. and Recio, A. (1993). Alteration of basilar membrane responses to sound by acoustic overstimulation. In: *Biophysics of Hair Cell Sensory Systems*, ed. by H. Duifhuis, J.W. Horst, P. van Dijk and S.M. van Netten, World Scientific Publishing, Singapore, pp. 258-264.

34. Ruggero, M. A. (1994). Cochlear delays and traveling waves: comments on "Experimental look at cochlear mechanics" (A. Dancer, *Audiology* 1992, 31: 301-312). *Audiology* 33: 131-142.
35. Ruggero, M. A. (1995). What is the mechanical stimulus for the inner hair cell? Clues from auditory-nerve and basilar-membrane responses to low-frequency sounds. In: *Active Hearing*, ed. by Å. Flock, D. Ottoson and M. Ulfendahl, Elsevier (Pergamon), Oxford, U.K., pp. 321-336.
36. Ruggero, M. A., Rich, N. C., Shivapuja, B. G. and Temchin, A. N. (1996). Auditory-nerve responses to low-frequency tones: intensity dependence. *Auditory Neurosci.* 2: 159-185.
37. Ruggero, M. A., Rich, N. C. and Recio, A. (1996). The effect of intense acoustic stimulation on basilar-membrane vibrations. *Auditory Neurosci.* 2: 329-345.
38. Ruggero, M. A., Rich, N. C., Robles, L. and Recio, A. (1996). The effects of acoustic trauma, other cochlear injury and death on basilar-membrane responses to sound. In: *Scientific Basis of Noise-Induced Hearing Loss*, ed. by A. Axelsson, H. Borchgrevink, P.-A. Hellström, D. Henderson, R.P. Hamernik and R. J. Salvi, Thieme Medical Publishers, New York, pp. 23-35.
39. Ruggero, M. A., Rich, N. C., Recio, A., Narayan, S. S. and Robles, L. (1997). Basilar-membrane responses to tones at the base of the chinchilla cochlea. *J. Acoust. Soc. Am.* 101: 2151-2163.
40. Robles, L., Ruggero, M. A. and Rich, N. C. (1997). Two-tone distortion on the basilar membrane of the chinchilla cochlea. *J. Neurophysiol.* 77: 2385-2399.
41. Temchin, A. N., Rich, N. C. and Ruggero, M. A. (1997). Low-frequency suppression of auditory-nerve responses to characteristic-frequency tones. *Hearing Res.* 113: 29-56.
42. Ruggero, M. A. and Santos-Sacchi, J. (1997). Cochlear mechanics and biophysics. In: *Encyclopedia of Acoustics (Vol. 3)*, ed. by M.J. Crocker, Wiley, N.Y., pp. 1357-1369.
43. Recio, A., Narayan, S. S. and Ruggero, M. A. (1997). Wiener-kernel analysis of basilar-membrane responses to white noise. In: *Diversity in Auditory Mechanics*, ed. by E.R. Lewis, G.R. Long, R.F. Lyon, P.M. Narins, C.R. Steele and E. Hecht-Poinar, World Scientific Publishing, Singapore, pp. 325-331.
44. Recio, A., Rich, N. C., Narayan, S. S. and Ruggero, M. A. (1998). Basilar-membrane responses to clicks at the base of the chinchilla cochlea. *J. Acoust. Soc. Am.* 103: 1972-1989.
45. Narayan, S. S., Temchin, A. N., Recio, A. and Ruggero, M. A. (1998). Frequency tuning of basilar membrane and auditory-nerve fibers in the same cochleae. *Science* 282: 1882-1884.
46. Ruggero, M. A., Narayan, S. S., Temchin, A. N. and Recio, A. (2000). Mechanical bases of frequency tuning and neural excitation at the base of the cochlea: comparison of basilar-membrane vibrations and auditory-nerve-fiber responses in chinchilla. *Proc. Nat. Acad. Sci. USA* 97: 11744-11750.
47. Narayan, S. S. and Ruggero, M. A. (2000). Basilar-membrane mechanics at the hook region of the chinchilla cochlea. In: *Recent Developments in Auditory Mechanics*, ed. by H. Wada, T. Takasaka, K. Ikeda, K. Ohyama, and T. Koike, World Scientific Publishing, Singapore, pp. 95-101.
48. Ruggero, M. A., Narayan, S. S., Temchin, A. N. and Recio, A. (2000). Mechanical bases of frequency tuning and neural excitation at the base of the cochlea: comparison of basilar-membrane vibrations and auditory-nerve-fiber responses in chinchilla. In: *National Academy of Sciences Colloquium on Auditory Neuroscience: Development, Transduction, and Integration*, ed. by A. J. Hudspeth and M. Konishi, National Academy of Sciences, Washington, DC (2001), pp. 55-61.
49. Robles, L. and Ruggero, M. A. (2001). Mechanics of the mammalian cochlea. *Physiol. Rev.* 81: 1305-1352.

50. Overstreet, E. H. and Ruggero, M. A. (2002). Development of wide-band middle ear transmission in the Mongolian gerbil. *J. Acoust. Soc. Am.* 111: 261-270.
51. Overstreet, E. H., Temchin, A. N. and Ruggero, M. A. (2002). Basilar-membrane vibrations near the round window of the gerbil cochlea. *JARO - J. Assoc. Res. Otolaryngol.* 3: 351-361.
52. Overstreet, E. H., Temchin, A. N. and Ruggero, M. A. (2002). Passive basilar-membrane vibrations in gerbil neonates: mechanical bases of cochlear maturation. *J. Physiol. (Lond.)* 545: 279-288.
53. Ruggero, M. A. and Temchin, A. N. (2002). The roles of the external, middle and inner ears in determining the bandwidth of hearing. *Proc. Nat. Acad. Sci. USA* 99: 13206-13210.
54. Overstreet, E. H., Richter, C.-P., Temchin, A. N., Cheatham, M. A. and Ruggero, M. A. (2003). High-frequency sensitivity of the mature gerbil cochlea and its development. *Audiology and Neuro-Otology* 8: 19-27.
55. Ruggero, M. A. and Temchin, A. N. (2003). Middle-ear transmission in humans: wide-band, not frequency-tuned? *ARLO - Acoustics Research Letters Online* 4: 53-58.
56. Overstreet, E. H., Temchin, A. N. and Ruggero, M. A. (2003). Development of cochlear mechanics in the gerbil. In: *Biophysics of the Cochlea: From Molecules to Models*, ed. by A. W. Gummer, E. Dalhoff, M. Nowotny and M. P. Scherer, World Scientific Publishing, Singapore, pp. 199-209.
57. Ruggero, M. A. (2004). Comparison of group delays of $2f_1$ - f_2 distortion product otoacoustic emissions and cochlear travel times. *ARLO - Acoustics Research Letters Online* 5: 143-147.
58. Ruggero, M. A., Temchin, A. N., Robles, L. and Overstreet, III, E. H. (2004). A new and improved middle ear. In: *Middle Ear Mechanics in Research and Otolaryngology*, ed. K. Gyo, H. Wada, N. Hato and T. Koike, World Scientific Publishing, Singapore, pp. 134-141.
59. Ruggero, M. A., Temchin, A. N., Robles, L. and Overstreet, III, E. H. (2005). El oído medio, nuevo y mejorado. *Otolaringológica* 27: 4-11.
60. Recio-Spinoso, A., Temchin, A. N., van Dijk, P., Fan, Y.-H. and Ruggero, M. A. (2005). Wiener-kernel analysis of responses to noise of chinchilla auditory-nerve fibers. *J. Neurophysiol.* 93: 3615-3634.
61. Temchin, A. N., Recio-Spinoso, A., van Dijk, P. and Ruggero, M. A. (2005). Wiener kernels of chinchilla auditory-nerve fibers: verification using responses to tones, clicks and noise and comparison with basilar-membrane vibrations. *J. Neurophysiol.* 93: 3635-3648.
62. Siegel, J. H., Cerka, A. J., Recio-Spinoso, A., Temchin, A. N., van Dijk, P. and Ruggero, M. A. (2005). Delays of stimulus-frequency otoacoustic emissions and cochlear vibrations contradict the theory of coherent reflection filtering. *J. Acoust. Soc. Am.* 118: 2434-2443.
63. Ruggero, M. A. and Temchin, A. N. (2005). Unexceptional sharpness of frequency tuning in the human cochlea. *Proc. Nat. Acad. Sci. USA* 102: 18614-18619.
64. Ruggero, M. A. and Temchin, A. N. (2007). Similarity of traveling-wave delays in the hearing organs of humans and other tetrapods. *JARO - J. Assoc. Res. Otolaryngol.* DOI: <http://www.springerlink.com/content/810w50320w41752w/?p=2d9cd730443e41e8b51c1dc536c3ebff&pi=0>
65. Ruggero, M. A., Temchin, A. N., Y.-H. Fan, H. Cai and L. Robles (2007). Boost of transmission at the pedicle of the incus in the chinchilla middle ear. In: *Middle Ear Mechanics in Research and Otolaryngology*, ed. A. Eiber and A. Huber, World Scientific Publishing, Singapore (in press).

Book editing

1. Dallos, P., Geisler, C. D., Matthews, J. W., Ruggero, M. A. and Steele, C. R. (1990). *The Mechanics and Biophysics of Hearing*, Springer Verlag, Berlin, Germany.

Book Reviews

1. Ruggero, M. A. (1987). Review of "The Electromodel of the Auditory System", by G. Offutt. *J. Acoust. Soc. Am.*, 81: 1213.

2. Ruggero, M. A. (1989). Review of "The Biology of Hearing and Deafness", by R.V. Harrison. *J. Acoust. Soc. Am.*, 85: 1386-1387.

3. Ruggero, M. A. (1991). Review of "Cochlear Mechanisms and Otoacoustic Emissions", ed. by F. Grandori, G. Cianfrone and D.T. Kemp. *J. Acoust. Soc. Am.*, 90:1209.

Other

Ruggero, M.A. (1995). Citation for Peter Dallos (on his being awarded the Acoustical Society of America's von Békésy Medal). *J. Acoust. Soc. Am.*, 98: following p. 2938.

Abstracts

1. Imig, T.J., Ruggero, M.A., Kitzes, L.M., Javel, E. and Brugge, J.F. (1974). Organization of auditory cortex in the owl monkey (*Aotus trivirgatus*). *J. Acoust. Soc. Am.*, 56: S23.

2. Dickson, J.W., Ruggero, M.A. and Wickesberg, R.E. (1975). Effects of intensity on responses of anteroventral cochlear nucleus (AVCN) neurons to clicks and noise. *J. Acoust. Soc. Am.*, 58: S64.

3. Ruggero, M.A., Dickson, J.W. and Wickesberg, R. (1975). Respuestas de neuronas aisladas del nucleo coclear anteroventral a sonidos de banda ancha. *Memoria de las Cuartas Jornadas Latinoam. de Acústica*, p. 80.

4. Dickson, J.W., Ruggero, M.A. and Wickesberg, R.E. (1977). Quantitative analysis of click elicited responses in anteroventral cochlear nucleus neurons. *Soc. for Neurosci. Abstracts*, 3: 5.

5. Ruggero, M.A. (1978). Auditory nerve correlates of acoustic trauma. *J. Acoust. Soc. Am.*, 64: S136.

6. Ruggero, M.A. (1979). Tuning curves from auditory-nerve fibers innervating injured cochleas. *Assoc. Res. Otolaryngol., Midwinter Meeting, Abstracts*, 2: 8.

7. Santi, P.A., Ruggero, M.A., Nelson, D.A. and Turner, C.W. (1981). Bumetanide potentiation of kanamycin ototoxicity: anatomical, physiological and behavioral correlates. *Assoc. Res. Otolaryngol., Midwinter Meeting, Abstracts*, 4: 60.

8. Ruggero, M.A. and Santi, P.A. (1981). Evidence for the projection of Type II spiral ganglion neurons to the cochlear nucleus in the chinchilla. *Soc. for Neurosci. Abstracts.*, 7: 146.

9. Ruggero, M.A. and Rich, N.C. (1982). Time of spike initiation in the auditory nerve in relation to basilar membrane motion. *J. Acoust. Soc. Am.*, 71: S17.

10. Ruggero, M.A., Kramek, B. and Rich, N.C. (1982). Otoacoustic emissions in man and dog: association with cochlear pathology. *Soc. for Neurosci. Abstracts*, 8: 43.

11. Ruggero, M.A. and Rich, N.C. (1983). Time course of suppression of spontaneous otoacoustic emissions. *J. Acoust. Soc. Am.*, 73: S60.
12. Robles, L., Ruggero, M.A. and Rich, N.C. (1984). Mössbauer measurements of basilar membrane tuning curves in the chinchilla. *J. Acoust. Soc. Am.*, 76: S35.
13. Ruggero, M.A., Robles, L. and Rich, N.C. (1984). Mechanical, microphonic and neural responses to low-frequency tones in the base of the chinchilla cochlea. *J. Acoust. Soc. Am.*, 76: S35-36.
14. Ruggero, M.A., Robles, L. and Rich, N.C. (1985). Basilar membrane and outer hair cells as determinants of spike initiation in the chinchilla cochlear nerve: correlation of single-unit recordings with microphonic and Mössbauer data. *Assoc. Res. Otolaryngol., Midwinter Meeting, Abstracts*, 8: 52.
15. Ruggero, M.A. and Rich, N.C. (1985). A π -shift in the spatial distribution of response phases of auditory-nerve fibers. *J. Acoust. Soc. Am.*, 77: S93-94.
16. Robles, L., Ruggero, M.A. and Rich, N.C. (1986). Mechanical tuning at the base of the chinchilla cochlea. *Int. Cong. Acoust. Abstracts*, p. 58.
17. Costalupes, J.A., Rich, N.C. and Ruggero, M.A. (1986). Effects of excitatory and non-excitatory suppressor tones on two-tone rate suppression in auditory nerve fibers. *Soc. for Neurosci. Abstracts*, 12: 1262.
18. Ruggero, M.A., Costalupes, J.A. and Rich, N.C. (1986). Mössbauer measurement of middle ear function in the chinchilla. *Soc. for Neurosci. Abstracts*, 12: 778.
19. Robles, L., Ruggero, M.A. and Rich, N.C. (1987). Two-tone suppression in the basilar membrane of the chinchilla. *Abstracts of the Second World Congress of Neuroscience, Neuroscience*, 22: S727. (Also presented, in Spanish, as "Supresión entre dos tonos simultáneos: otro fenómeno no lineal de origen mecánico en la cóclea de la chinchilla" at the November 1987 meeting of the Sociedad de Biología de Chile).
20. Ruggero, M.A. and Rich, N.C. (1987). Responses of cochlear afferents to low-frequency tones: intensity dependence. *Abstracts of the Second World Congress of Neuroscience, Neuroscience*, 22: S130.
21. Ruggero, M.A. and Rich, N.C. (1990). Application of laser velocimetry to the measurement of basilar membrane vibrations. *J. Acoust. Soc. Am.*, 87: S101.
22. Robles, L., Ruggero, M.A. and Rich, N.C. (1990). Two-tone distortion products in the basilar membrane of the chinchilla cochlea. *Soc. for Neurosci. Abstracts*, 16: 871.
23. Ruggero, M. A., Rich, N. C. and Robles, L. (1991). Comparison of cochlear-nerve and basilar-membrane responses to low-frequency tones: absence of macromechanical basis for "peak splitting". *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 14: 78.
24. Ruggero, M.A., Rich, N.C. and Recio, A. (1991). Responses to clicks of the chinchilla basilar membrane. *Soc. for Neurosci. Abstracts* 17: 1106.
25. Ruggero, M.A., Robles, L. and Rich, N.C. (1992). Laser velocimetry measurement of mechanical two-tone suppression in the basilar membrane of the chinchilla cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 15: 118.
26. Ruggero, M.A., Rich, N.C. and Recio, A. (1993). Acoustic overstimulation reduces basilar membrane responses to sound. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 16: 31.
27. Robles, L., Ruggero, M.A. and Rich, N.C. (1993). Distortion products at the basilar membrane of the cochlea: dependence on stimulus frequency and intensity and effect of acoustic trauma. *Soc. for Neurosci. Abstracts* 19: 1421.

28. Ruggero, M.A. (1994). Mechanics of the basilar membrane at the base of the mammalian cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 17: 41.
29. Temchin, A.N., Rich, N.C. and Ruggero, M.A. (1994). The effect of low-frequency tones on the responses of auditory-nerve fibers to characteristic-frequency tones. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 17: 97.
30. Recio, A. and Ruggero, M.A. (1995). Effects of quinine on basilar-membrane responses to sound. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 18: 200.
31. Temchin, A., Recio, A., van Dijk, P. and Ruggero, M.A. (1995). Wiener-kernel analysis of chinchilla auditory-nerve responses to noise. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 18: 174.
32. Recio, A., Narayan, S.S. and Ruggero, M.A. (1996). Wiener-kernel analysis of basilar-membrane responses to white noise. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 19: 55.
33. Ruggero, M.A., Rich, N.C., Robles, L., Recio, A. and Narayan, S.S. (1996). Laser velocimetry measurements of basilar-membrane responses to tones at the base of the chinchilla cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 19: 101.
34. Temchin, A.N., Rich, N.C. and Ruggero, M.A. (1997). Frequency-threshold curves of chinchilla auditory-nerve fibers. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 20: 152.
35. Narayan, S.S., Recio, A. and Ruggero, M.A. (1998). Cubic distortion products at the basilar membrane and in the ear canal of chinchillas. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 21: 181.
36. Overstreet, E.H. and Ruggero, M.A. (1998). Basilar membrane mechanics at the hook region of the Mongolian gerbil cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 21: 181.
37. Overstreet, E.H. and Ruggero, M.A. (1999). The development of basilar membrane mechanics at the hook region of the Mongolian gerbil cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 22: 135-136.
38. Recio, A., Temchin, A.N., Narayan, S.S., Rich, N.C. and Ruggero, M.A. (1999). Relationship between basilar-membrane vibration and auditory-nerve excitation at the base of the chinchilla cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 22: 87.
39. Narayan, S.S. and Ruggero, M.A. (2000). Basilar-membrane mechanics at the hook region of the chinchilla cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 23: 206.
40. Overstreet, E.H. and Ruggero, M.A. (2000). Stapes vibration in adult and newborn Mongolian gerbils. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 23: 115.
41. Ruggero, M.A. (2000). An amplifier in the mammalian cochlea? *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 23: 140.
42. Temchin, A.N. and Ruggero, M.A. (2000). The phases of auditory-nerve fiber responses to tones: dependence on stimulus frequency and intensity. *J. Acoust. Soc. Am.*, 107: 2900.
43. Temchin, A.N. and Ruggero, M.A. (2001). Parameters of the mechanical traveling wave in the chinchilla cochlea derived from auditory-nerve fiber response phases. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 24: 156.
44. Temchin, A.N., Robles, L. and Ruggero, M.A. (2002). A re-examination of middle-ear transmission in chinchilla. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 25: 154.
45. Siegel, J. H., Temchin, A. N. and Ruggero, M. A. (2003). Empirical estimates of the spatial origin of stimulus-frequency otoacoustic emissions. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 26: 172.

46. Siegel, J. H., Cerka, A. J., Temchin, A. N. and Ruggero, M. A. (2004). Similar two-tone suppression patterns in SFOAEs and the cochlear microphonics indicate comparable spatial summation of underlying generators. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 27: 181.
47. Ruggero, M. A. (2004). Compression in the cochlea. *J. Acoust. Soc. Am.*, 115: 2421.
48. Fan, Y.-H. and Ruggero, M. A. (2005). Basilar-membrane responses in the cochleae of adult chinchillas and gerbils, either post-mortem or in-vivo, do not have the minimum-phase property. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 28: 275.
49. Gong, Q., Temchin, A. N., Siegel, J. H. and Ruggero, M. A. (2005). Similarity of group delays of basilar-membrane vibrations and distortion-product otoacoustic emissions in chinchilla. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 28: 113.
50. Robles, L., Temchin, A. N., Fan, Y.-H. and Ruggero, M. A. (2005). Boost of transmission at the incudo-stapedial joint of chinchilla middle ear. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 28: 321-322.
51. Ruggero, M. A., Temchin, A. N., Robles, L. and Fan, Y.-H. (2005). The middle ear does not limit the bandwidth of hearing. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 28: 272.
52. Siegel, J. H., Cerka, A. J., Recio-Spinoso, A., Temchin, A. N., van Dijk, P. and Ruggero, M. A. (2005). Map of basilar-membrane delays reveals fast exit of stimulus-frequency otoacoustic emissions from the chinchilla cochlea. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 28: 232.
53. Robles, L., Temchin, A. N., Fan, Y.-H., Cai, H. and Ruggero, M. A. (2006). Vibrations of the stapes and the long and lenticular processes of the incus in the chinchilla middle ear. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 29: 215.
54. Ruggero, M. A. and Temchin, A. N. (2006). Traveling-wave delays in the human cochlea are not exceptionally long. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 29: 335.
55. Ruggero, M. A. and Temchin, A. N. (2006). Frequency tuning in the human cochlea is not exceptionally sharp. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 29: 302.
56. Cai, H., Narayan, S. S., Recio-Spinoso, A. and Ruggero, M. A. (2007). Distortion products measured simultaneously in basilar-membrane vibrations and ear-canal otoacoustic emissions. *Assoc. Res. Otolaryngol., Midwinter Meet., Abstracts*, 30: 251-252.

INVITED PRESENTATIONS

1. Symposium in Memory of R.R. Pfeiffer, 90th Meeting of the Acoustical Society of America, San Francisco, CA. 4 November 1975. "Linear analysis of anteroventral-cochlear-nucleus unit responses to low intensity tones, clicks, and noise."
2. Minnesota Speech and Hearing Association 14th Annual Meeting, Duluth, MN. 5 May 1976. "The physiology of sensorineural hearing loss."
3. Voyageurs Chapter, Society for Neuroscience, University of Minnesota, Minneapolis, MN. 31 May 1979. "Auditory nerve correlates of cochlear damage."
4. Symposium on Pediatric Applications of Evoked Potentials, University of Wisconsin, Madison, WI. 27 August 1980. "Reverse correlation techniques in auditory physiology."
5. Physiology/Biophysical Sciences Seminar, University of Minnesota, Minneapolis, MN. 12 January 1983. "The ear as a tone generator: active mechanical feedback in the cochlea."
6. Physiology Seminar, West Virginia University, Morgantown, WV. 28 April 1983. "The role of outer hair cells in cochlear transduction: neural and mechanical clues."
7. Acoustical Society of America, Upper Midwest Chapter, Minneapolis, MN. 17 May 1983. "Otoacoustic emissions and cochlear transduction."
8. Symposium on Current Topics in Audiology, University of California at Irvine, CA. 23-24 August 1984. "Otoacoustic emissions - a tutorial."
9. Cell Biology and Neuroanatomy Seminar, University of Minnesota, Minneapolis, MN. 22 May 1985. "Active and feedback processes in cochlear mechanics."
10. Institute of Experimental Medicine, Czechoslovak Academy of Sciences, Prague, Czechoslovakia. 9 July 1986. "Cochlear transduction: the ear as a microphone and loudspeaker".
11. Biophysical Sciences/Physiology Seminar, University of Minnesota, Minneapolis, MN. 15 October 1987. "Basilar membrane vibrations and cochlear afferent excitation: mechanical basis of auditory nerve function."
12. Instituto de Biología Celular, Facultad de Medicina, Universidad de Buenos Aires, Buenos Aires, Argentina. 22 December 1987. "Fisiología de la cóclea: el oído como micrófono y como altoparlante."
13. Center for Hearing Sciences, The Johns Hopkins University, Baltimore, MD. 18 March 1988. "Mechanical bases of cochlear-nerve excitation."
14. Physiology Seminar, University of Minnesota, Minneapolis, MN. 13 January 1989. "Mechanical bases of cochlear-nerve excitation."
15. Center for Research in Learning, Perception, and Cognition, University of Minnesota, Minneapolis, MN. 2 March 1989. "The ear as a microphone and as a loudspeaker."
16. Hearing and Chemical Senses Seminar, Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI. 7 December 1989. "Mechanical bases of spike initiation in cochlear afferents."
17. Neuroscience Program, University of Minnesota, Minneapolis, MN. 24 April 1990. "Nonlinearities in the mechanical response to sound of the mammalian cochlea."
18. Physiology Seminar ("Friday Night Fights"), University of Minnesota, Minneapolis, MN. 15 February 1991. "Nonlinearities in the mechanical response to sound of the basilar membrane of the cochlea".

19. Program in Neurobiology, University of Chicago. 25 April 1991. "Mechanical bases of cochlear-nerve excitation".
20. Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL. 15 August 1991. "Mechanical bases of cochlear-nerve excitation".
21. International Discussion Meeting on Auditory Processing of Complex Sounds, Royal Society, London, England. 4-5 December 1991. "Basilar membrane responses to two-tone and broadband stimuli".
22. Department of Physiology, University of Bristol, Bristol, England. 10 December 1991. "Mechanical bases of cochlear-nerve excitation".
23. Department of Communications and Neuroscience, University of Keele, Staffordshire, England. 11 December 1991. "Mechanical bases of cochlear-nerve excitation".
24. Institute of Laryngology and Otolaryngology, London, England. 13 December 1991. "Mechanical bases of cochlear-nerve excitation".
25. Physiology Seminar ("Friday Night Fights"), University of Minnesota, Minneapolis, MN. 4 December 1992. "Cellular control of cochlear mechanics: influence of the organ of Corti on the basilar membrane".
26. Baule Colloquium, Institute for Sensory Research, Syracuse University, Syracuse, NY. 12 April 1993. "Cellular control of cochlear mechanics: influence of the organ of Corti on the basilar membrane".
27. Lions Research Bldg. Seminar Series, University of Minnesota, Minneapolis, MN. 19 November 1993. "Vulnerability of cochlear mechanics".
28. Workshop on Cochlear Mechanics/Transition or Revolution?, Association for Research in Otolaryngology, Midwinter Meeting, St. Petersburg Beach, Florida. 7 February 1994. "Mechanics of the basilar membrane at the base of the mammalian cochlea".
29. Inaugural Lecture, Hugh Knowles Chair in Hearing Sciences. Northwestern University. 19 April 1994. "How hearing begins: mechanics of the mammalian cochlea".
30. Vth International Symposium on the Effects of Noise on Hearing, Göteborg, Sweden. 12-14 May 1994. "The effects of acoustic trauma, other cochlear injury and death on basilar-membrane responses to sound".
31. Wenner-Gren Center International Symposium on Active Hearing, Stockholm, Sweden. 25-28 May 1994. "What is the mechanical stimulus for the inner hair cell? Clues from auditory-nerve and basilar-membrane responses to low-frequency sounds".
32. Neuroscience Seminar, Purdue University, W. Lafayette, IN. 2 March 1995. "How hearing begins: mechanics of the mammalian cochlea".
33. Physiology Seminar, Northwestern University Medical School, Chicago. 20 October 1995. "How hearing begins: mechanics of the mammalian cochlea".
34. Seminars on Hearing, University of Minnesota, Minneapolis. 2 April 1996. "How hearing begins: mechanics of the mammalian cochlea".
35. Sensory Neurobiology Seminar, Department of Neurobiology and Physiology, Northwestern University, Evanston. 3 June 1996. "Two-tone distortion in cochlear mechanics".
36. Departamento de Fisiología y Biofísica, Universidad de Chile, Santiago. 6 September 1996. "Como empezamos a oír: mecánica de la cóclea".

37. Hearing and Chemical Senses Seminar, Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI. 1 October 1997. "What the basilar membrane tells the auditory nerve."
38. IIIa. Escuela de Neurociencia, Universidad de la República, Montevideo, Uruguay. 24 March 1998. "Fisiología de la cóclea de mamíferos."
39. Simposio sobre Procesamiento Sensorial (IBRO, UNESCO), Colonia del Sacramento, Uruguay. 26 March 1998. "Vulnerabilidad de la mecánica coclear."
40. Center for Studies in Physics and Biology, Rockefeller University, New York. 2 November 1999. "Basilar membrane mechanics and the cochlear amplifier."
41. Symposium on The Cellular Basis of the Cochlear Amplifier, Association for Research in Otolaryngology, Midwinter Meeting, St. Petersburg Beach, Florida. 22 February 2000. "An amplifier in the mammalian cochlea?"
42. Featured Session at American Academy of Audiology 12th Convention, Chicago, 18 March 2000. "Cochlear Mechanics."
43. National Academy of Sciences Colloquium on Auditory Neuroscience: Development, Transduction and Integration, Irvine, California. 19-21 May, 2000. "How well do cochlear vibrations account for the responses of auditory-nerve fibers?"
44. Center for Hearing and Balance, The Johns Hopkins University, Baltimore, MD. 11 January 2001. "What the chinchilla's basilar membrane tells (and does not tell) the chinchilla's auditory nerve".
45. Boys Town National Research Hospital, Omaha, NE. 13 July 2001. "What the chinchilla's basilar membrane tells (and does not tell) the chinchilla's auditory nerve".
46. Hanse Wissenschaftskolleg, Delmenhorst, Nieder Sachsen, Germany. Conference on the Perceptual Consequences of Cochlear Nonlinearity. 9-12 August 2001. "The development of middle-ear and basilar-membrane mechanics in neonatal gerbils".
47. Facultad de Matemáticas, Física y Astrofísica, Universidad Nacional de Córdoba, Argentina. 24 August 2001. "Lo que la membrana basilar de la chinchilla le dice (y no le dice) al nervio auditivo".
48. Plenary Lecture at the International Conference on The Biophysics of the Cochlea Molecules to Models, Titisee, Baden-Württemberg, Germany. 30 July 2002. "Development of cochlear mechanics in the gerbil".
49. Northwestern University, Institute for Neuroscience, Annual Retreat. 14 September 2002. "On the external, middle and inner ears".
50. University of Chicago, Committee on Neurobiology. 7 March 2003. "On the middle ear of vertebrates".
51. Instituto de Investigaciones en Ingeniería Genética y Biología Molecular, Buenos Aires, Argentina, 5 September 2003. "El oído medio, nuevo y mejorado".
52. Symposium on Compression in Hearing. 147th. Meeting of the Acoustical Society of America. New York, NY. 23 May 2004. "Compression in the cochlea".
53. XV Semana Nacional de Lucha contra la Sordera. Universidad Católica Argentina, Buenos Aires, Argentina. 15 July 2004. "Mecánica coclear".
54. XV Semana Nacional de Lucha contra la Sordera. Universidad Católica Argentina, Buenos Aires, Argentina. 15 July 2004. "Fisiología del oído medio".

55. XV Semana Nacional de Lucha contra la Sordera. Universidad Católica Argentina, Buenos Aires, Argentina. 16 July 2004. "Fundamentos fisiológicos de las emisiones otoacústicas".
56. Inner Ear Biology Workshop, Debrecen, Hungary. 6 September 2004. "Cochlear propagation of otoacoustic emissions via acoustic compression waves?"
57. Workshop on the Mathematics of the Ear and Signal Processing. Institute for Pure and Applied Mathematics. University of California, Los Angeles. 31 January 2005. "Cochlear mechanics: what we think we know and what we may or not know".
58. Symposium on Integrating Middle-Ear Imaging, Physiology, Biomechanics, Association for Research in Otolaryngology, Midwinter Meeting, New Orleans. 23 February 2005. "The middle ear does not limit the bandwidth of hearing".
59. Rice University (Houston, TX), Department of Bioengineering. 21 March 2005. "The origins and propagation of otoacoustic emissions: implications of cochlear delays".
60. University of Maryland, College Park, Neuroscience and Cognitive Science Program. 8 April 2005. "Transmission delays at the auditory periphery: middle ear, basilar membrane, auditory nerve and otoacoustic emissions".
61. XVI Semana Nacional de Lucha contra la Sordera. Universidad Católica Argentina, Buenos Aires, Argentina. 14 July 2005. "Transmisión y transformación de señales acústicas en el oído (parte I)".
62. XVI Semana Nacional de Lucha contra la Sordera. Universidad Católica Argentina, Buenos Aires, Argentina. 15 July 2005. "Transmisión y transformación de señales acústicas en el oído (parte II)".
63. University of Southern California (Los Angeles). Biomedical Simulations Resource, Workshop on Advanced Methods of Neurophysiological Signal Analysis & System Modeling. 9-10 June 2006. "Wiener-kernel analysis of cochlear nonlinearities".
64. House Ear Institute (Los Angeles, CA). 12 June 2006. "On the unexceptional properties of the human ear".
65. Ted Evans Lecture (keynote speech) at British Society of Audiology (University of Cambridge, United Kingdom). September 14, 2006. "The human ear is (mostly and probably) unexceptional".
66. Boston University, Department of Biomedical Engineering. January 26, 2007. "The human ear is (mostly and probably) unexceptional".