CURRICULUM VITAE JOHN S. OGHALAI, MD

I. GENERAL BIOGRAPHICAL INFORMATION

A. Personal

1. Name: John S. Oghalai
2. Date of Birth: December 14, 1968
3. Citizenship: United States

B. Education

1. Undergraduate:
   a. B.S., Electrical Engineering, University of Wisconsin – Madison (1986-1990)
2. Medical:
   a. M.D., University of Wisconsin – Madison (1990-1994)
3. Postgraduate:
   a. Internship: General Surgery, Department of Surgery, Baylor College of Medicine, Houston, TX (1994-1995)
   b. Residency: Otolaryngology - Head and Neck Surgery, Bobby R. Alford Department of Otorhinolaryngology and Communicative Sciences, Baylor College of Medicine, Houston, TX (1995-2001)
   c. Post-Doctoral Research Fellowship: Bobby R. Alford Department of Otorhinolaryngology and Communicative Sciences, Baylor College of Medicine, Houston, TX. Advisor: William E. Brownell, Ph.D. (1996-1998)
   d. Fellowship in Neurotology and Skull Base Surgery, Department of Otolaryngology - Head and Neck Surgery, University of California - San Francisco, San Francisco, CA (2001-2003)

C. Academic Appointments

1. Current positions
   a. Associate Professor (University Tenure Line), Department of Otolaryngology – Head and Neck Surgery, Stanford University, Stanford, CA (2010-pres)
   b. Director, The Children's Hearing Center at Lucille Packard Children's Hospital at Stanford (2010-pres)
   c. Faculty, Bio-X Program, Stanford University, Stanford, CA (2010-pres)
   d. Adjunct Associate Professor, Department of Bioengineering, Rice University, Houston, TX (2009-pres)
2. Previous positions at other institutions
   a. Associate Professor (Tenured), Bobby R. Alford Department of Otolaryngology – Head and Neck Surgery, Baylor College of Medicine, Houston, TX (2009-2010)
   b. Secondary appointment, Associate Professor, Department of Neuroscience, Baylor College of Medicine, Houston, TX (2008-2010)
   c. Adjunct Assistant Professor, Department of Bioengineering, Rice University, Houston, TX (2005-2009)
   d. Clinic Chief and Director of The Hearing Center at Texas Children's Hospital (2004-2010)
   e. Assistant Professor (Tenure Track), Bobby R. Alford Department of Otolaryngology – Head and Neck Surgery, Baylor College of Medicine, Houston, TX (2003-2009)

f. Clinical Instructor, Department of Otolaryngology - Head and Neck Surgery, University of California - San Francisco, San Francisco, CA (2001-2003)

D. Other advanced training/experience – n/a

E. Other information

1. Honors and Awards
   a. Stanford School of Medicine Faculty Fellow (2012)
   b. Fellow of the American College of Surgeons (2007)
   c. The Dawn and Brook Lenfest Grant in Auditory Science (2004)
   d. Neurotology Trainee Award from the American Neurotology Society: The Effect of Age upon Acoustic Neuroma Surgery Outcomes (2002)
   e. Voted Administrative Chief Resident by other residents (2000-2001)
   f. Resident Teaching Award (for peer and medical student teaching) (2000)
   g. The J. Charles Dickson Award for Basic Science Research: Outer Hair Cell Electromotility and the Lateral Wall: Lipid-Protein Interactions on a Nanoscale (1999)
   h. Texas Association of Otolaryngology - Head and Neck Surgery Resident Paper Award (2nd place): Nanoscale membrane rippling in the cochlear outer hair cell (1999)
   i. The J. Charles Dickson Award for Basic Science Research: Innate and voltage-dependent mobility within the lateral wall plasma membrane domain of the outer hair cell (1998)
   j. Texas Association of Otolaryngology - Head and Neck Surgery Resident Paper Award (2nd place): Ionic currents and electromotility in human hair cells (1998)
   k. The J. Charles Dickson Award for Basic Science Research: Fluorescence-imaged microdeformation of the outer hair cell lateral wall (1997)
   l. Association for Research in Otolaryngology Midwinter Meeting Resident Travel Awards (1997, 1998, 1999, & 2001)
   m. Alpha Omega Alpha (1994)
   n. The Evan and Marion Helfaer Scholarship (1993)
   o. The Youmans Award in Medical Physiology (1992)
   p. University of Wisconsin Engineering Departmental Scholarship (1990)
   q. University of Wisconsin Chemistry Departmental Scholarship (1987)
   r. Dean's Honor List every semester (1986-1990)
   s. Acceptance to University of Wisconsin Medical Scholars Program (1986)
   t. Eagle Scout

2. Board Certification and Licensure
   a. USMLE Step I (June, 1992)
   b. USMLE Step II (March, 1994)
   c. USMLE Step III (December, 1996)
   d. Texas Medical License: J9532 (1996-pres.)
   e. California Medical License: A75420 (2001-pres.)
   f. DEA certification (1996-pres.)
   g. Otolaryngology-Head and Neck Surgery; American Board of Otolaryngology (2002)
   h. Neurotology; American Board of Otolaryngology (6/1/2010-6/30/2020)

3. Other non-academic positions
   a. Co-Op Engineer, McDonnell Douglas Corporation, St. Louis, MO (1989)
   b. Co-Op Engineer, General Motors Corporation, Lansing, MI (1988)
   c. Summer Day Camp Counselor, Madison Metropolitan School District, Madison, WI (1985-1986)

II. RESEARCH INFORMATION

A. Research support

1. Diagnosis & Treatment of Blast-Induced Hearing Loss
   a. Funding Agency: DoD W81XWH-11-2-0004
   b. Investigator relationship: PI
   c. Dates of funding: 11/1/10-10/31/13
   d. Annual direct cost: $750,000 Total cost for overall period: $3,192,936
   e. Grant Goal: Blast-induced hearing loss is a common injury sustained by military personnel and produces a long-term disability that requires chronic management. We will develop improved techniques for imaging of the ear and correlate the findings with a detailed assessment of the tissue, cellular, and genetic changes that occur within the ear using a novel mouse model of blast injury.

2. Translation of near-infrared spectroscopy for use in clinical neuro-imaging of deaf children after cochlear implantation
   a. Funding Agency: NIH R56 DC010164-01A1
   b. Investigator relationship: PI
   c. Dates of funding: 8/1/10-7/31/12
   d. Annual direct cost: $250,000 Direct cost for overall period: $250,000
   e. Grant Goal: The goal of this proposal is to develop near-infrared spectroscopy neuroimaging into a valid and reliable clinical tool to aid the care of children who hear through a cochlear implant. This technique is expected to enhance the ability of a cochlear implant team to program a child's device.

3. Outcomes in Children with Developmental Delay and Deafness: a Randomized Trial
   a. Funding Agency: NIH R01 DC010075
   b. Investigator relationship: PI
   c. Dates of funding: 9/18/09-8/31/14
   d. Annual direct cost: $327,036 Direct cost for overall period: $2,481,327
   e. Grant Goal: Currently, there is little compelling evidence supporting the idea that cochlear implantation provides benefit to children that don't have the cognitive potential to develop normal speech and language. We hypothesize that development and quality of life will improve more in deaf children with developmental delays when treated with a cochlear implant compared to those treated with hearing aids. We are performing a prospective, randomized clinical trial to answer the question of which intervention provides more benefit to this population of children using validated, norm-referenced tests. If our hypothesis is correct and cochlear implants significantly improve development and quality of life in deaf children with developmental delays, our study will

provide essential evidence to support clinical decision-making in this population.

4. Development of High Resolution Endoscopes for In Vivo Imaging of the Inner Ear
   a. Funding Agency: John S. Dunn Foundation Collaborative Research Award
   b. Investigator relationship: co-PI (with Tomasz Tkaczyk, PhD, Dept of Bioengineering, Rice University)
   c. Dates of funding: 09/01/09 to 08/31/11
   d. Annual direct cost: $50,000 Direct cost for overall period: $100,000
   e. Grant Goal: A major difficulty in evaluating patients (especially children) with hearing loss is understanding the reason why they have the hearing loss, and deciding whether or not a cochlear implant should be placed. Unfortunately, current techniques for imaging the cochlea are inadequate for making this determination. Methods like computed tomography (CT) and magnetic resonance imaging (MRI) are routinely performed as part of the evaluation of deafness but can identify only gross malformations of the cochlea. In this application, we propose to develop a novel imaging technique designed to overcome this limitation. We will combine optical coherence tomography, an imaging technique commonly used to image the eye, with tunable miniature objectives that can be positioned close to the cochlea and will permit change of imaging depth. The combination of these techniques will permit visualization of the internal anatomy of the cochlea with adequate resolution to detect crucial features. In addition we will design a miniature tunable lens specifically for use in patients. The ultimate goal is to place this lens on an endoscopic device and test our ability to image the inner ear in humans.

5. Stimulation of Auditory Neurons by Multi-Photon Laser Targeting
   a. Funding Agency: The Virginia and L.E. Simmons Family Foundation Collaborative Research Fund
   b. Investigator relationship: co-PI (with Robert Raphael, PhD, Dept of Bioengineering, Rice University)
   c. Dates of funding: 3/1/09-2/28/10
   d. Annual direct cost: $145,544 Direct cost for overall period: $145,544
   e. Grant Goal: The goal of this research is to investigate the potential of stimulating nerves using light. In contrast to electrical stimulation, light can be tightly focused so that single neurons can be stimulated. In particular, we propose to 1) characterize the ability of a laser to stimulate auditory neurons in culture and 2) test the feasibility of this approach to restore hearing within the mammalian inner ear. This research is an interdisciplinary collaboration between John S. Oghalai, MD (Baylor College of Medicine) and Robert M. Raphael, PhD (Rice University). The fusion of Dr. Raphael's basic science and engineering expertise with Dr. Oghalai's clinical and auditory research expertise will lay a strong foundation for this translational research effort. A direct potential outcome of this research would be the development of a new auditory prosthetic that can provide superior performance to that currently available with a cochlear implant. Many indirect outcomes could potentially stem from the transformative nature of this research because the ability to selectively stimulate neurons of interest non-invasively within an organ could be used as

the basis for neural prosthetic development in many other organ systems, such as the brain, spinal cord, eye, and peripheral nerves.

6. Optical Neuro-Imaging of Deaf Children with Cognitive Delays after Cochlear Implantation
   a. Funding Agency: The Dana Foundation
   b. Investigator relationship: PI
   c. Dates of funding: 1/1/08-12/31/11
   d. Annual direct cost: $66,750 Direct cost for overall period: $200,000
   e. Grant Goal: Outcomes after cochlear implantation are variable in children and depend upon correct programming of the device. However, programming the implant is complicated in children, particularly those with cognitive delays, because of the inability to accurately measure behavioral responses. We hypothesize that optically imaging activity within the auditory cortex using near-infrared spectroscopy (NIRS) can provide an accurate and immediate measure of speech perception in deaf children hearing through a cochlear implant. This translational research has the potential to guide cochlear implant programming in all young children and especially in patients with absent behavioral responses, such as those with cognitive delays.

7. Stereotactic Stimulation of the Cochlea for the Treatment of Hearing Loss
   a. Funding Agency: The Clayton Foundation
   b. Investigator relationship: PI
   c. Dates of funding: 1/1/07-12/31/10
   d. Annual direct cost: $337,606 Direct cost for overall period: $1,017,986
   e. Grant Goal: To develop new treatment strategies for hearing loss in humans, an interdisciplinary research project at Baylor College of Medicine, Rice University, and UC-Riverside studies hearing loss in mice. We plan to develop an experimental setup to rapidly target a laser beam to a three-dimensional structure. The primary goals are to: 1) image the inner ear using optical coherence tomography and 2) produce photonic stimulation of the inner ear in a stereotactic manner.

8. Modulation of Inner Ear Nanomechanics
   a. Funding Agency: Alliance for Nanohealth – U.S. Department of Defense
   b. Investigator relationship: PI
   c. Dates of funding: 2/1/07-9/28/09
   d. Annual direct cost: $131,262.50 Direct cost for overall period: $131,262.50
   e. Grant Goal: We hypothesize that laser-induced nano-scale structural changes within the basilar membrane will change the stiffness of the basilar membrane and subsequently alter the resonant frequency map. We will test this hypothesis *in situ* and *in vivo* using a laser Doppler vibrometer to measure basilar membrane resonance in the mouse cochlea before and after laser irradiation.

9. Research Training in Otolaryngology – Head and Neck Surgery
   a. Funding Agency: NIH-NIDCD Grant T32 DC007367
   b. Investigator relationship: Program Faculty PI: William E. Brownell, Ph.D.
   c. Dates of funding: 7/1/05-6/30/10

d. Annual direct cost: $88,069 Direct cost for overall period: $578,557
e. Grant Goal: This grant funds a two-year research training program in otolaryngology for residents, a one-year research training elective for medical students, and a two-month research elective for medical students

10. Prestin Transduction in the Mouse Cochlea (competing renewal)
    a. Funding Agency: American Hearing Research Foundation
    b. Investigator relationship: PI
    c. Dates of funding: 1/1/2005-12/31/2005
    d. Annual direct cost: $20,000 Direct cost for overall period: $20,000
    e. Grant Goal: The aim of this research proposal is to determine whether the prestin protein can be tranduced in the mouse cochlea using a helper-dependent adenoviral vector and whether this restores electromotility in mouse outer hair cells. The development of techniques to restore the cochlear amplifier could lead to valuable methods of treating patients with hearing loss.

11. Transduction of Prestin Using Adenovirus in the Mouse Inner Ear
    a. Funding Agency: Caroline Wiess Law Fund for Research in Molecular Medicine
    b. Investigator relationship: PI
    c. Dates of funding: 8/10/2004-8/9/2005
    d. Annual direct cost: $25,000 Direct cost for overall period: $25,000
    e. Grant Goal: The aim of this research proposal is to determine whether adenoviral transduction of the prestin protein in the prestin null mouse restores outer hair cell electromotility.

12. Modulation of Cochlear Tuning
    a. Funding Agency: NIH-NIDCD Grant K08 DC006671
    b. Investigator relationship: PI
    c. Dates of funding: 4/1/2004-2/28/2010
    d. Annual direct cost: $155,000 Direct cost for overall period: $775,000
    e. Grant Goal: The aim of this research proposal is to understand the relationship between the passive and active tuning properties of the cochlear partition and to develop techniques that can be used to change the cochlear frequency map. In vivo and in vitro experiments designed to manipulate both the passive and the active components of the cochlear partition will be performed using the guinea pig cochlea. Clinically, these studies may lead to therapeutic interventions for progressive sensorineural hearing loss. Mentors: Bill Brownell and Ruth Anne Eatock

13. The Effect of Modulating Outer Hair Cell Biomechanics on Cochlear Tuning
    a. Funding Agency: The National Organization for Hearing Research Foundation
    b. Investigator relationship: PI
    c. Dates of funding: 1/1/2004-12/31/2004
    d. Annual direct cost: $15,000 Direct cost for overall period: $15,000
    e. Grant Goal: The aim of this research proposal is to understand the effect of changing outer hair cell electromotility on the cochlear frequency map. The ability to change cochlear tuning characteristics may lead to new therapeutic interventions for patients with noise-induced and age-related sensorineural hearing loss.

14. Prestin Transduction in the Mouse Cochlea
    a. Funding Agency: American Hearing Research Foundation
    b. Investigator relationship: PI
    c. Dates of funding: 1/1/2004-12/31/2004
    d. Annual direct cost: $17,500 Direct cost for overall period: $17,500
    e. Grant Goal: The aim of this research proposal is to determine whether the prestin protein can be tranduced in the mouse cochlea using a viral vector and whether this restores hearing in mice with sensorineural hearing loss. The development of techniques to restore the cochlear amplifier could lead to valuable methods of treating patients with hearing loss.

15. Modulation of Cochlear Mechanics
    a. Funding Agency: NIH-NIDCD Grant R03 DC05131
    b. Investigator relationship: PI
    c. Dates of funding: 8/1/2001-5/31/2004
    d. Annual direct cost: $50,000 Direct cost for overall period: $150,000
    e. Grant Goal: The objective of these studies is to understand how drugs modulate the cochlear amplifier, specifically those that affect outer hair cell biomechanics. Clinically, they will improve our comprehension of the generation of otoacoustic emissions, as well as the role of the efferent nerves on the cochlear amplifier in health and disease. Additionally, these studies may lead to therapeutic interventions for noise-induced hearing loss and tinnitus.

16. The Effect of the Subsurface Cisternae on Outer Hair Cell Transmembrane Potential
    a. Funding Agency: Deafness Research Foundation
    b. Investigator relationship: PI
    c. Dates of funding: 1/1/96-12/31/98
    d. Annual direct cost: $15,000 Direct cost for overall period: $30,000
    e. Grant Goal: The long-term objective of this project is to determine the electrical and mechanical contribution of cellular components towards outer hair cell electromotility. The central hypothesis is that the elegant nanoscale organization of the cell's lateral wall is required for OHC function.

B. National scientific participation

1. Editorial and advisory boards
    a. Otology & Neurotology, journal editorial board (2005-pres.)
    b. Journal of International Advanced Otology, editorial board member (2008-pres.)
    c. Alliance for Nanohealth, scientific advisory board (2006-2010)

2. Review panels
    a. NIH/NIDCD Study Section –
        1) Special emphasis panels: 2/2006, 11/2006, 5/2010, 7/2010, 3/2011, 9/2011, 3/2012
        2) AUD: 9/2009
        3) Small grant (R03) review: 3/2011
    b. Deafness Research Foundation Grant Reviewer (2010, 2011)

c. American Academy of Otolaryngology – Head and Neck Surgery Foundation CORE Grant review study section member (2007-pres.)
d. Journal reviewer
   1) Journal of Neuroscience
   2) Archives of Otolaryngology-Head & Neck Surgery
   3) Otolaryngology-Head and Neck Surgery
   4) Otology & Neurotology
   5) Laryngoscope
   6) Head and Neck
   7) Hearing Research
   8) Lasers in Surgery and Medicine
   9) European Journal of Neurology
   10) Journal of Biological Optics
   11) Pediatrics
   12) Experimental Biology and Medicine
   13) Journal of Neural Engineering
   14) Journal of International Advanced Otology
   15) Journal of Pediatric Otorhinolaryngology
   16) Nanomedicine
   17) The Annals of Otology, Rhinology & Laryngology
   18) IEEE Transactions on Biomedical Engineering
   19) Journal of Vestibular Research

3. Professional societies
   a. The American Otological Society
   b. The Triological Society (inducted May, 2008)
      1) TrioBP (Triological Society Best Practice) committee (2009-pres.)
   c. The American Academy of Otolaryngology - Head and Neck Surgery
      1) ARO representative co-chair of the Research Forum for the American Academy of Otolaryngology – Head and Neck Surgery Foundation Annual Meeting (2005-2007)
      2) AAO-HNSF representative co-chair of the Research Forum for the American Academy of Otolaryngology – Head and Neck Surgery Foundation Annual Meeting (2008-2010)
      3) Program Advisory Committee (2008-2012)
   d. The American Neurotology Society, Fellow
      1) Research Program Committee (2008-2009)
      2) Research Steering Committee (2010-2013)
      3) Audit Committee (2011-2014)
   e. The Association for Research in Otolaryngology
      1) Committee on Patient Advocacy Group Relations (2000-2002)
      2) JARO Publications Committee (2004-2007; 2012-2015)
      3) Animal Research Committee (2007-2010)
   f. Society for Neuroscience
   g. Kappa Eta Kappa electrical engineering fraternity
   h. North American Skull Base Society
   i. Harris County Medical Society (2003-2010)
   j. Houston Society of Otolaryngology
      1) Secretary (2007-08)

2) Vice-president (2008-09)
3) President (2009-10)
4) AAO-HNSF Board of Governors Representative (2007-2009)

k. The Society of Photo-Optical Instrumentation Engineers (SPIE) (2010-pres)

4. Invited research lectures
   a. Dept of Otolaryngology - Head and Neck Surgery, Oregon Health Sciences University, Portland, OR: Outer hair cell electromotility and the lateral wall: lipid-protein interactions on a nanoscale (May, 1999)
   b. CCRMA Hearing Seminar, Stanford University, Palo Alto, CA: Modulation of Cochlear Biomechanics (Nov, 2001)
   c. Dept of Otolaryngology - Head and Neck Surgery, Oregon Health Sciences University, Portland, OR: Modulation of Cochlear Mechanics: Preliminary Modeling and Experimental Results (Nov, 2004)
   d. Gulf Coast Consortium for Membrane Biology, Clinical Aspects of Membrane Biology Seminar Series, UT-Houston, Houston, TX: Membrane-Based Outer Hair Cell Electromotility in Hearing and Hearing Loss (Apr, 2009).
   e. Dept of Neurobiology and Anatomy, University of Rochester, Rochester NY: The Outer Hair Cell in Hearing and Hearing Loss (June, 2009).

C. Publications

1. Peer-reviewed manuscripts
   1. Oghalai JS, Street WN, Rhode WS. A neural network-based spike discriminator. *Journal of neuroscience methods* 1994;54:9-22.
   2. Oghalai JS, Favrot SR, Coker NJ. Imaging quiz case 2. Soft tissue fibrosis. *Arch Otolaryngol Head Neck Surg* 1996;122:1267-9.
   3. Higgins JJ, Ide SE, Oghalai JS, Polymeropoulos MH. Lack of mutations in the biotin-binding region of the pyruvate carboxylase (PC) gene in a family with partial PC deficiency. *Clinical biochemistry* 1997;30:79-81.
   4. Oghalai JS, Holt JR, Nakagawa T, Jung TM, Coker NJ, Jenkins HA, Eatock RA, Brownell WE. Ionic currents and electromotility in inner ear hair cells from humans. *Journal of neurophysiology* 1998;79:2235-9.
   5. Oghalai JS, Patel AA, Nakagawa T, Brownell WE. Fluorescence-imaged microdeformation of the outer hair cell lateral wall. *J Neurosci* 1998;18:48-58.
   6. Oghalai JS, Giannoni C, Donovan DT, Johnson PE, Green LK. Aggressive cervical lymphoma presenting as airway obstruction. *Otolaryngol Head Neck Surg* 1999;120:610-3.
   7. Oghalai JS, Tran TD, Raphael RM, Nakagawa T, Brownell WE. Transverse and lateral mobility in outer hair cell lateral wall membranes. *Hearing research* 1999;135:19-28.
   8. Oghalai JS, Holt JR, Nakagawa T, Jung TM, Coker NJ, Jenkins HA, Eatock RA, Brownell WE. Harvesting human hair cells. *The Annals of otology, rhinology, and laryngology* 2000;109:9-16.

9. Oghalai JS, Manolidis S, Barth JL, Stewart MG, Jenkins HA. Unrecognized benign paroxysmal positional vertigo in elderly patients. *Otolaryngol Head Neck Surg* 2000;122:630-4.

10. Oghalai JS, Zhao HB, Kutz JW, Brownell WE. Voltage- and tension-dependent lipid mobility in the outer hair cell plasma membrane. *Science* 2000;287:658-61.

11. Nguyen TU, Oghalai JS, McGregor DK, Janssen NM, Huston DP. Subcutaneous nodular amyloidosis: a case report and review of the literature. *Human pathology* 2001;32:346-8.

12. Jackler RK, Oghalai JS. Limitations to mobilizing the intrapetrous carotid artery. *The Annals of otology, rhinology, and laryngology* 2002;111:860.

13. Oghalai JS. Aspiration of a dental appliance in a patient with Alzheimer disease. *JAMA* 2002;288:2543-4.

14. Oghalai JS, Chen L, Brennan ML, Tonini R, Manolidis S. Neonatal hearing loss in the indigent. *The Laryngoscope* 2002;112:281-6.

15. Satar B, Jackler RK, Oghalai J, Pitts LH, Yates PD. Risk-benefit analysis of using the middle fossa approach for acoustic neuromas with >10 mm cerebellopontine angle component. *The Laryngoscope* 2002;112:1500-6.

16. Oghalai JS, Buxbaum JL, Pitts LH, Jackler RK. The effect of age on acoustic neuroma surgery outcomes. *Otol Neurotol* 2003;24:473-7.

17. Oghalai JS, Jackler RK. Anatomy of the combined retrolabyrinthine-middle fossa craniotomy. *Neurosurgical focus* 2003;14:e8.

18. Yates PD, Jackler RK, Satar B, Pitts LH, Oghalai JS. Is it worthwhile to attempt hearing preservation in larger acoustic neuromas? *Otol Neurotol* 2003;24:460-4.

19. Bloch DC, Oghalai JS, Jackler RK, Osofsky M, Pitts LH. The fate of the tumor remnant after less-than-complete acoustic neuroma resection. *Otolaryngol Head Neck Surg* 2004;130:104-12.

20. Lau CC, Oghalai JS, Jackler RK. Combination of aberrant internal carotid artery and persistent stapedial artery. *Otol Neurotol* 2004;25:850-1.

21. Oghalai JS. Chlorpromazine inhibits cochlear function in guinea pigs. *Hearing research* 2004;198:59-68.

22. Oghalai JS, Leung MK, Jackler RK, McDermott MW. Transjugular craniotomy for the management of jugular foramen tumors with intracranial extension. *Otol Neurotol* 2004;25:570-9; discussion 9.

23. Oghalai JS, Ramirez AL, Hegarty JL, Jackler RK. Chronic pachymeningitis presenting as asymmetric sensorineural hearing loss. *Otol Neurotol* 2004;25:616-21.

24. Oghalai JS, Buxbaum JL, Jackler RK, McDermott MW. Skull base chondrosarcoma originating from the petroclival junction. *Otol Neurotol* 2005;26:1052-60.

25. Pletcher SD, Oghalai JS, Reeck JB, Cheung SW. Management of superior canal dehiscence syndrome with extensive skull-base deficiency. *ORL; journal for oto-rhino-laryngology and its related specialties* 2005;67:192-5.

26. Oghalai JS. The cochlear amplifier: augmentation of the traveling wave within the inner ear. *Current opinion in otolaryngology & head and neck surgery* 2004;12:431-8.

27. Wenzel GI, Pikkula B, Choi CH, Anvari B, Oghalai JS. Laser irradiation of the guinea pig basilar membrane. *Lasers in surgery and medicine* 2004;35:174-80.

28. Choi CH, Oghalai JS. Predicting the effect of post-implant cochlear fibrosis on residual hearing. *Hearing research* 2005;205:193-200.

29. McMurphy AB, Oghalai JS. Repair of iatrogenic temporal lobe encephalocele after canal wall down mastoidectomy in the presence of active cholesteatoma. *Otol Neurotol* 2005;26:587-94.

30. Tang HY, Xia A, Oghalai JS, Pereira FA, Alford RL. High frequency of the IVS2-2A>G DNA sequence variation in SLC26A5, encoding the cochlear motor protein prestin, precludes its involvement in hereditary hearing loss. *BMC medical genetics* 2005;6:30.

31. Evans MB, Tonini R, Shope CD, Oghalai JS, Jerger JF, Insull W, Jr., Brownell WE. Dyslipidemia and auditory function. *Otol Neurotol* 2006;27:609-14.

32. Isaacson B, Coker NJ, Vrabec JT, Yoshor D, Oghalai JS. Invasive cerebrospinal fluid cysts and cephaloceles of the petrous apex. *Otol Neurotol* 2006;27:1131-41.

33. Nakagawa T, Oghalai JS, Saggau P, Rabbitt RD, Brownell WE. Photometric recording of transmembrane potential in outer hair cells. *Journal of neural engineering* 2006;3:79-86.

34. Patel N, Oghalai JS. Familial unilateral cochlear nerve aplasia. *Otol Neurotol* 2006;27:443-4.

35. Paylor R, Glaser B, Mupo A, Ataliotis P, Spencer C, Sobotka A, Sparks C, Choi CH, Oghalai J, Curran S, Murphy KC, Monks S, Williams N, O'Donovan MC, Owen MJ, Scambler PJ, Lindsay E. Tbx1 haploinsufficiency is linked to behavioral disorders in mice and humans: implications for 22q11 deletion syndrome. *Proc Natl Acad Sci U S A* 2006;103:7729-34.

36. Prichard CN, Isaacson B, Oghalai JS, Coker NJ, Vrabec JT. Adult spontaneous CSF otorrhea: correlation with radiographic empty sella. *Otolaryngol Head Neck Surg* 2006;134:767-71.

37. Tang HY, Fang P, Ward PA, Schmitt E, Darilek S, Manolidis S, Oghalai JS, Roa BB, Alford RL. DNA sequence analysis of GJB2, encoding connexin 26: observations from a population of hearing impaired cases and variable carrier rates, complex genotypes, and ethnic stratification of alleles among controls. *American journal of medical genetics* 2006;140:2401-15.

38. Visosky AM, Isaacson B, Oghalai JS. Circumferential petrosectomy for petrous apicitis and cranial base osteomyelitis. *Otol Neurotol* 2006;27:1003-13.

39. Calzada G, Isaacson B, Yoshor D, Oghalai JS. Surgical approaches to the hypoglossal canal. *Skull Base* 2007;17:187-96.

40. Cristobal R, Oghalai JS. Peripetrosal arachnoid cysts. *Current opinion in otolaryngology & head and neck surgery* 2007;15:323-9.

41. Kushalnagar P, Krull K, Hannay J, Mehta P, Caudle S, Oghalai J. Intelligence, Parental Depression, and Behavior Adaptability in Deaf Children Being Considered for Cochlear Implantation. *J Deaf Stud Deaf Educ* 2007 Summer;12(3):335-49.

42. Pierson SK, Caudle SE, Krull KR, Haymond J, Tonini R, Oghalai JS. Cognition in children with sensorineural hearing loss: etiologic considerations. *The Laryngoscope* 2007;117:1661-5.

43. Rajagopalan L, Greeson JN, Xia A, Liu H, Sturm A, Raphael RM, Davidson AL, Oghalai JS, Pereira FA, Brownell WE. Tuning of the outer hair cell motor by membrane cholesterol. *J Biol Chem* 2007 Dec 14;282(50):36659-70.

44. Wenzel GI, Anvari B, Mazhar A, Pikkula B, Oghalai JS. Laser-induced collagen remodeling and deposition within the basilar membrane of the mouse cochlea. *J Biomed Opt* 2007;12:021007.

45. Wenzel GI, Xia A, Funk E, Evans MB, Palmer DJ, Ng P, Pereira FA, Oghalai JS. Helper-dependent adenovirus-mediated gene transfer into the adult mouse cochlea. *Otol Neurotol* 2007;28:1100-8.

46. Xia A, Visosky AM, Cho JH, Tsai MJ, Pereira FA, Oghalai JS. Altered traveling wave propagation and reduced endocochlear potential associated with cochlear dysplasia in the BETA2/NeuroD1 null mouse. *J Assoc Res Otolaryngol* 2007;8:447-63.

47. Choi CH, Oghalai JS. Perilymph Osmolality Modulates Cochlear Function. *The Laryngoscope* 2008 Sep;118(9):1621-9.

48. Cristobal R, Oghalai JS. Hearing loss in children with very low birth weight: current review of epidemiology and pathophysiology. *Arch Dis Child Fetal Neonatal Ed* 2008;93:F462-8.

49. Oghalai JS, Tonini R, Rasmus J, Emery C, Manolidis S, Vrabec JT, Haymond J. Intra-operative monitoring of cochlear function during cochlear implantation. *Cochlear implants international* 2008;10(1):1621-9.

50. Shenoy V, Oghalai JS. Chronic pachymeningitis and bilateral facial paralysis secondary to renal osteodystrophy. *Arch Otolaryngol Head Neck Surg* 2008;134:324-6.

51. Tang HY, Basehore MJ, Blakey GL, Darilek S, Oghalai JS, Roa BB, Fang P, Alford RL. Infrequency of two deletion mutations at the DFNB1 locus in patients and controls. *American journal of medical genetics* 2008;146:934-6.

52. Xia A, Wooltorton JR, Palmer DJ, Ng P, Pereira FA, Eatock RA, Oghalai JS. Functional Prestin Transduction of Immature Outer Hair Cells from Normal and Prestin-Null Mice. *J Assoc Res Otolaryngol* 2008 Sep;9(3):307-20.
53. Katzenstein JM, Oghalai JS, Tonini R, Baker D, Haymond J, Caudle SE. Neurocognitive Functioning of a Child with Partial Trisomy 6 and Monosomy 21. *Neurocase* 2009;15(2):97-100.
54. Zevallos JP, Vrabec JT, Williamson RA, Giannoni CM, Sulek M, Larrier D, Friedman EM, Oghalai JS. Bacteriology and Management of Advanced Pediatric Mastoiditis with and without Intracranial Complications. *Laryngoscope* 2009;119(8):1610-5.
55. Williamson RA, Oghalai JS, Vrabec JT. Auditory performance after cochlear implantation in late septuagenarians and octogenarians. *Otology & Neurotology* 2009;30(7):916-20.
56. Lin JW, Mody A, Tonini RT, Vrabec JT, Oghalai JS. Characteristics of channel faults in failed cochlear implants. *Laryngoscope* 2010;120(2):399-404.
57. Maricich SM, Xia A, Mathes, EL, Wang VY, Oghalai JS, Fritzsch B, Zoghbi HY. Atoh1-Lineal Neurons Are Required for Hearing and for the Survival of Neurons in the Spiral Ganglion and Brainstem Accessory Auditory Nuclei. *J Neurosci* 2009;29(36):11123-33.
58. Xia A, Gao SS, Yuan T, Osborne A, Pfister M, Maricich SM, Pereira FA, Oghalai JS. Deficient forward transduction and enhanced reverse transduction in the alpha tectorin C1509G human hearing loss mutation. *Disease Models & Mechanisms* 2010, Epub Date 2010/02/10.
59. Yuan T, Gao SS, Saggau P, Oghalai JS. Calcium imaging of inner ear hair cells within the cochlear epithelium of mice using two-photon microscopy. *Journal of Biomedical Optics* 2010;15(1):016002.
60. Lin, JW, Oghalai, JS. Can radiologic imaging replace second-look procedures for cholesteatoma? *Laryngoscope* 2011;121(1):4-5.
61. Lin, J.W., Chowdhury, N., Mody, A., Tonini, R., Emery, C., Haymond, J., Oghalai, J.S. Comprehensive diagnostic battery for evaluating sensorineural hearing loss in children. *Otology & Neurotology* 2011;32(2):259-64.
62. Sevy ABG, Bortfeld H, Huppert TJ, Beauchamp M, Tonini RE, Oghalai JS. Neuroimaging with Near-Infrared Spectroscopy Demonstrates Speech-Evoked Activity in the Auditory Cortex of Deaf Children Following Cochlear Implantation. *Hearing Research* 2010;270(1-2):39-47.
63. Liu, C.C., S.S. Gao, T. Yuan, C. Steele, S. Puria, and J.S. Oghalai, *Biophysical mechanisms underlying outer hair cell loss associated with a shortened tectorial membrane.* J Assoc Res Otolaryngol, 2011. **12**(5): p. 577-94.
64. Gueta, R., J. Levitt, A. Xia, O. Katz, J.S. Oghalai, and I. Rousso, *Structural and mechanical analysis of tectorial membrane tecta mutants.* Biophys J, 2011. 100(10): p. 2530-8.

65. Osborn, A.J., J.S. Oghalai, and J.T. Vrabec, *Middle ear volume as an adjunct measure in congenital aural atresia.* Int J Pediatr Otorhinolaryngol, 2011. **75**(7): p. 910-4.
66. Gao, S.S., A. Xia, T. Yuan, P.D. Raphael, R.L. Shelton, B.E. Applegate, and J.S. Oghalai, Quantitative imaging of cochlear soft tissues in wild-type and hearing-impaired transgenic mice by spectral domain optical coherence tomography. *Opt Express*, 2011. **19**(16): p. 15415-28.
67. Beauchamp, M.S., M.R. Beurlot, E. Fava, A.R. Nath, N.A. Parikh, Z.S. Saad, H. Bortfeld, and J.S. Oghalai, The Developmental Trajectory of Brain-Scalp Distance from Birth through Childhood: Implications for Functional Neuroimaging. *PLoS ONE*, 2011. **6**(9): p. e24981.
68. Applegate, B.E., R.L. Shelton, S.S. Gao, and J.S. Oghalai, *Imaging high-frequency periodic motion in the mouse ear with coherently interleaved optical coherence tomography.* Opt Lett, 2011. **36**(23): p. 4716-8.
69. Somma, G., H.M. Alger, R.M. McGuire, J.D. Kretlow, F.R. Ruiz, S.A. Yatsenko, P. Stankiewicz, W. Harrison, E. Funk, A. Bergamaschi, J.S. Oghalai, A.G. Mikos, P.A. Overbeek, and F.A. Pereira, *Head Bobber: An Insertional Mutation Causes Inner Ear Defects, Hyperactive Circling, and Deafness.* J Assoc Res Otolaryngol, 2012.
70. Gurgel, R.K., G.R. Popelka, J.S. Oghalai, N.H. Blevins, K.W. Chang, and R.K. Jackler, *Is It Valid to Calculate the 3-Kilohertz Threshold by Averaging 2 and 4 Kilohertz?* Otolaryngol Head Neck Surg, 2012.
71. Gurgel, R.K. and J.S. Oghalai, *Are mastoid pressure dressings necessary after otologic surgery to prevent postoperative hematomas?* Laryngoscope, 2012. **122**(3): p. 485-6.
72. Caudle, S.E., J.M. Katzenstein, J.S. Oghalai, J. Lin, and D.D. Caudle, *Nonverbal Cognitive Development in Children With Cochlear Implants: Relationship Between the Mullen Scales of Early Learning and Later Performance on the Leiter International Performance Scales-Revised.* Assessment, 2012.
73. Oghalai JS, Caudle SE, Bentley B, Abaya H, Lin J, Baker D, Emery C, Bortfeld H, Winzelberg J. *Cognitive outcomes and familial stress after cochlear implantation in deaf children with and without developmental delays.* Otology and Neurotology, in press.
74. Chai R,Kuo B, Wang T, Liaw EJ, Xia A, Jan TA, Liu Z, Taketo MM, Oghalai JS, Nusse R, Zuo J, Cheng AG. *Wnt signaling induces proliferation of sensory precursors in the postnatal mouse cochlea*. Proc Natl Acad Sci U S A 2012

2. Other papers
    1. Oghalai JS. Revision cochlear implantation after device failure. *Operative Techniques in Otolaryngology – Head and Neck Surgery* 2005;16:146-8.
    2. Jerry, J. and J.S. Oghalai, *Towards an etiologic diagnosis: assessing the patient with hearing loss.* Adv Otorhinolaryngol, 2011. 70: p. 28-36.

3. Abstracts given during last three years
    1. Xia A, Wooltorton JW, Palmer DJ, Ng P, Pereira FA, Eatock RA, Oghalai JS. Prestin-null OHCs transduced with prestin demonstrate plasma

membrane expression and non-linear capacitance. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2007.

2. Xia A, Visosky AM, Cho J-H, Tsai M-J, Pereira FA, Oghalai JS. Reduced traveling wave propagation and endocochlear potential in a mouse model of Mondini cochlear dysplasia. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2007.
3. Tonini RT, Rasmus J, Emery C, Haymond J, Manolidis S, Vrabec JT, Oghalai JS. Intra-operative monitoring of cochlear function permits improved hearing preservation during pediatric cochlear implantation. Abstracts of the Spring Meeting of the American Otological Society 2007.
4. Sung A, Cristobal R, Tonini R, Emery C, Rasmus J, Haymond J, Oghalai JS. Hearing aid trials in pediatric cochlear implantation. Abstracts of the Annual Meeting of the American Academy of Otolaryngology - Head and Neck Surgery Foundation, Inc. 2007, p. P92.
5. Maricich SM, Xia A, Oghalai JS, Fritzch B, Zoghbi HY. Spatially restricted conditional disruption of *Math1* in the developing murine brainstem causes centrally-mediated deafness and results in the loss of spiral ganglion cells in the cochlea. Society for Neuroscience Meeting, San Diego, California, 2007.
6. Xia A, Pereira FA, Pfister M, Oghalai JS. Hearing Loss in alpha-tectorin C1509G transgenic mouse. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2008.
7. Maricich SM, Xia A, Oghalai JS, Fritzch B, Zoghbi HY. Conditional disruption of *Atoh1* in the developing hindbrain results in central deafness and reveals a novel function of the cochlear nucleus in the maintenance of neurons in the brainstem accessory auditory nuclei and spiral ganglion. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2008.
8. Zevallos JP, Oghalai JS. Intracranial complications of otitis media in children. Abstracts of the Spring Meeting of the Triological Society 2008, p.128.
9. Oghalai JS, Xia A, Gao SS, Yuan T, Pfister M, Pereira FA. Altered tectorial membrane anatomy produces cochlear dysfunction in alpha tectorin C1509G transgenic knockin mice. Abstracts of the Society for Neuroscience Annual Meeting 2008, #259.11/BB7.
10. Gao SS, Xia A, Osborn AJ, Pfister M, Pereira FA, Oghalai JS. Characterization of the alpha tectorin C1509G mutation in mice. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2009.
11. Sevy ABG, Bortfeld H, Huppert TJ, Tonini RE, Oghalai JS. Neuro-imaging of deaf children following cochlear implantation: Speech-evoked activity within the auditory cortex detected with near infrared spectroscopy. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2009.
12. Osborn AJ, Gao SS, Xia A, Maricich SM, Pereira FA, Oghalai JS. Altered tectorial membrane development and outer hair cell physiology in an alpha tectorin transgenic mouse. Abstracts of the Spring Meeting of the Triological Society 2009, p.20.

13. Osborn AJ, Oghalai JS, Vrabec JT. Extent of aeration in congenital aural atresia. Abstracts of the Spring Meeting of the Triological Society 2009, p.20.
14. Lin JW, Mody A, Tonini R, Vrabec JT, Oghalai JS. Characteristics of channel faults in failed cochlear implants. Abstracts of the Spring Meeting of the American Neurotology Society 2009, p. 17.
15. Williamson RA, Oghalai JS, Vrabec JT. Auditory performance after cochlear implantation in late septuagenarians and octogenarians. Abstracts of the Spring Meeting of the American Neurotology Society 2009, p. 17.
16. Sevy ABG, Bortfeld H, Huppert TJ, Beauchamp M, Nath A, Tonini RE, Oghalai JS. Neuroimaging of deaf children following cochlear implantation: Speech-evoked activity within the auditory cortex. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2010.
17. Yuan T, Shelton R, Applegate B, Gao S, Oghalai JS. Imaging of the mouse cochlea by frequency domain optical coherence tomography. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2010.
18. Liu C, Gao S, Yuan T, Oghalai JS. Prestin upregulation in TECTA C1509G mice increases electromotility and membrane permeability to propidium iodide. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2010.
19. Lin, J.W., Chowdhury, N., Mody, A., Tonini, R., Emery, C., Haymond, J., Oghalai, J.S. Comprehensive diagnostic battery for evaluating sensorineural hearing loss in children. Abstracts of the Spring Meeting of the American Neurotology Society 2010, p. 15.
20. Bortfeld H, Sevy ABG, Huppert TJ, Beauchamp MS, Tonini RE, Oghalai JS. Speech-Evoked Activity in the Auditory Cortex of Deaf Children Following Cochlear Implantation as Measured using NIRS. Abstracts of the Biannual Meeting of the Society for Research in Child Development 2011.
21. Sevy, A., Bortfeld, H., Huppert, T., Beauchamp, M., Tonini, R., & Oghalai, J. Establishing speech-evoked activity in the auditory cortex of deaf children following cochlear implantation using near-infrared spectroscopy. 2nd Annual Neurobiology of Language Conference (satellite meeting of the Society for Neuroscience) 2010. San Diego, CA.
22. Gao, S.S., Yuan, T., Xia, A., Raphael, P.R., Shelton, R.L., Applegate, B.E., Oghalai, J.S. Imaging of the intact mouse cochlea by spectral domain optical coherence tomography. Proceedings of the SPIE Biophototoncs meeting, 2011, San Francisco.
23. Scully P, Oghalai JS, Brownell WE. Reactive Components of the Cochlear Microphonic. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2011.
24. Gao SS, Xia A, Yuan T, Raphael P, Shelton RL, Applegate BE, Oghalai JS. Imaging of the intact mouse cochlea by spectral domain optical coherence tomography. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2011.
25. Clifton WL, Chiu I, Groves AK, Pereira FA, Oghalai JS. Increased Prestin Expression in Remaining Outer Hair Cells after Noise-Induced Hearing

Loss. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2011.

26. Xia A, Liu C, Puria S, Steele C, Gao SS, Yuan T, Oghalai JS. Altered Radial and Longitudinal Patterns of Noise-Induced Outer Hair Cell Loss in the TectaC1509G/+ Mouse. Abstracts of the Midwinter Research Meeting of the Association for Research in Otolaryngology 2011.
27. Gurgel RK, Oghalai JS, Chang KW, Blevins NH, Jackler RK, Popelka G. Correlation of Measured vs Averaged 3kHz Pure Tone Averages. AAO-HNSF Annual Meeting 2011. P90.
28. Oghalai JS, Caudle SE, Lin J, Bortfeld H, Bentley B, Abaya H. Cognitive outcomes and stress after cochlear implantation in deaf children with and without developmental delays. Abstracts of the Spring Meeting of the American Neurotology Society 2012.
29. Lin JW, Tonini R, Emery C, Williamson RA, Vrabec JT, Oghalai JS. Efficacy of hearing aid trial in determining pediatric cochlear implantation candidacy. Abstracts of the Spring Meeting of the American Neurotology Society 2012.

4. Books

a. Complete books written

1) Oghalai JS, Driscoll CLW. Atlas of Neurotologic and Lateral Skull Base Surgery. Heidelberg, Germany: Springer (Manuscript in preparation).

b. Books edited – n/a

c. Book chapters written

1) Brownell WE, Oghalai JS. Lateral diffusion and the plasma membrane area-motor hypothesis. In: Goncalves PB, Jasiuk I, Pamplona D, Steele C, Weber HI, Bevilacqua L, eds. Applied Mechanics in the Americas 6. Rio de Janeiro: AAM and ABCM; 1999: 61-64.
2) Brownell WE, Oghalai JS. Structural basis of outer hair cell motility or where's the motor? In: Lim D, ed. Cell and Molecular Biology of the Ear. New York: Kluwer Academic/Plenum Press; 2000:69-83.
3) Oghalai JS, Brownell WE. Voltage- and drug-dependent outer hair cell plasma membrane fluidity. In: Wada H, Takasaka T, Ikeda K, Ohyama K. Koike T. Recent Developments in Auditory Mechanics. Singapore: World Scientific Publishing Co., Pte. Ltd.; 2000:295-301.
4) Oghalai JS. Neoplasms of the temporal bone. In: Lalwani A, ed. Current Diagnosis and Treatment in Otolaryngology – Head and Neck Surgery. New York; Lange Medical Books/McGraw-Hill; 2004:845-64.
5) Oghalai JS. Trauma of the inner ear and temporal bone. In: Lalwani A, ed. Current Diagnosis and Treatment in Otolaryngology – Head and Neck Surgery. New York; Lange Medical Books/McGraw-Hill; 2004:793-801.
6) Oghalai JS, Brownell WE. Anatomy and physiology of the ear. In: Lalwani A, ed. Current Diagnosis and Treatment in Otolaryngology – Head and Neck Surgery. New York; Lange Medical Books/McGraw-Hill; 2004:611-30.
7) Oghalai JS. Cochlear hearing loss. In: Jackler R, Brackmann D, eds. Neurotology. 2nd edition. Philadelphia: Mosby; 2004:589-606.

8) Oghalai JS, Jackler RK. Overview of facial nerve surgery. In: Jackler R, Brackmann D, eds. Neurotology. 2nd edition. Philadelphia: Mosby; 2004:1212-22.
9) Oghalai JS. Trauma of the temporal bone. In: Stewart MG, ed. Head and Neck Trauma. New York: Thieme Medical Publishers; 2005:169-79.
10) Oghalai JS, Choi C-H, Spector AA. Modulation of cochlear mechanics: model predictions and experimental findings of the effect of changing perilymph osmolarity. In: Nuttall F, ed. Auditory Mechanisms: Processes and Models. Singapore: World Scientific Publishing Co., Pte. Ltd.; 2006: 41-8.
11) Brownell WE, Oghalai JS. Cochlear biophysics. In: Snow JB and Wackym PA, eds. Ballenger's Otorhinolaryngology Head and Neck Surgery. 17 edition, USA: Pmph; 2008: 101-6.
12) Rajagopalan L, Sfondouris J, Oghalai JS, Pereira FA, Brownell WE. Membrane composition tunes the outer hair cell motor. In: Cooper N, ed. Auditory Mechanisms: Processes and Models. Singapore: World Scientific Publishing Co., Pte. Ltd..
13) Puria, S., B. Hartman, J. Kim, J.S. Oghalai, A.J. Ricci, and M.C. Liberman, Three-dimensional imaging of the mouse organ of Corti cytoarchitecture for mechanical modeling, in Mechanics of Hearing, C.A. Shera and E.S. Olson, Editors. 2011, Institute of Physics.
14) Pikhart, K.N., G.R. Popelka, A. Moleti, R. Sisto, J.S. Oghalai, A. Xia, and S. Puria, Measurement of SFOAEs at high frequencies in humans and mice, in Mechanics of Hearing, C.A. Shera and E.S. Olson, Editors. 2011, American Institute of Physics. p. in press.
15) Oghalai, J.S., A. Xia, C.C. Liu, S.S. Gao, B.E. Applegate, S. Puria, I. Rousso, and C. Steele, Biophysical mechanisms underlying hearing loss associated with a shortened tectorial membrane, in Mechanics of Hearing, C.A. Shera and E.S. Olson, Editors. 2011, Institute of Physics.

5. Other works communicating research results to scientific colleagues
   a. US provisional patent application: Method and Apparatus for Tuning of the Cochlea. Serial # PCT/US05/09188, Filing Date: 3/18/05, Priority Date: 3/18/04, Inventors: Oghalai JS and Anvari B, BLG# 04-091.
   b. US provisional patent application: Technique for measuring and analyzing sound vibrations within the inner ear. Serial # US 61/530,806, Filing Date: 9/02/11, Inventors: Oghalai JS, Applegate BE, Gao SS, Raphael PD.

6. Other works communicating work to the public
   a. Showcased on the Discovery Health Channel program Mystery Diagnosis (Mar, 2006). A patient of mine with a temporal lobe encephalocele and intracranial cholesteatoma was presented.
   b. Showcased on the Discovery Health Channel program Mystery ER (Oct, 2008). "Nothing to sneeze at". A patient of mine with a temporal lobe encephalocele was presented.

III. TEACHING INFORMATION

A. Didactic course work

1. Courses taught within the primary department
   a. Program Director – Baylor College of Medicine Continuing Medical Education Course: Advances in Otology and Neurotology, Hilton Americas, Houston TX (Mar, 2005) A nationwide course for general otolaryngologists; 9.5 CME credits - 103 registrants.
   b. Program Director – Baylor College of Medicine Continuing Medical Education Course: Comprehensive Management of the Pediatric Ear, Omni Houston Hotel, Houston TX (May, 2007). A nationwide course for pediatricians, family practitioners, otolaryngologists, and audiologists; 16 CME credits - 261 registrants.
   c. Coordinator of Baylor departmental Morbidity and Mortality monthly conference (2005-2010): 1 hour, 6 times per year.
   d. Otolaryngology class on diseases of the ear for Baylor third year medical students (2003-2010): 1 hour per lecture, 4 times per year.
   e. Otology & Neurotology lectures to Baylor otolaryngology residents and medical students (2003-2010): 2 hours per lecture, 8 times per year.
   f. Temporal bone drilling course to Baylor otolaryngology residents (2003-2010): 4 hours per session, 2-3 times per year.
   g. Temporal bone drilling course to Stanford otolaryngology residents (2011-pres.): 4 hours per session, 1 time per year.

2. Courses taught external to the primary department
   a. Course director, Bench to Bedside seminar series journal club for Baylor Translational Biology and Molecular Medicine Program graduate students (Spring semester, 2008): 1 hour per week for 8 weeks.

3. Courses taught at other institutions
   a. Lecturer on cochlear implantation Sensory Integration Course within the Bioengineering Department at Rice University for senior undergraduate students (2003-2010): 2 hours per lecture, once a year.
   b. Instruction course at the Annual Meeting of the American Academy of Otolaryngology - Head and Neck Surgery Foundation, Inc., New Orleans, LA: An Update on Active Hearing (1999) – 1 CME credit
   c. Instruction course at the Annual Meeting of the American Academy of Otolaryngology - Head and Neck Surgery Foundation, Inc., New Orleans, LA: A Basic Science Review of the Cochlea (2000) – 1 CME credit

B. Curriculum development work – n/a

C. Non-didactic teaching

1. Resident training
   a. Surgical ~ 8 hours per week
   b. Clinical skills during clinic and hospital rounds ~ 6 hours per week

2. Residents rotating through my lab for 3 months of basic science research training
   1) Brad Evans, MD (2004) – now in private practice
   2) Ann Marie Visosky, MD (2004) – now in private practice
      - received Association for Research in Otolaryngology Resident Travel Award for work in my lab (2005)

3) Etai Funk, MD (2005) –Finished plastic surgery fellowship; now in private practice

3. Clinical fellow training
   a. Neurotology and Skull Base Surgery
      1) Brandon Isaacson, MD (2004-2006) – Now an Assistant Professor at UT-Southwestern, Dallas, TX
      2) Ricardo Cristobal, MD, PhD (2006-2008) – Clinical Faculty at UT-Southwestern, Fort Worth, TX
      3) Jerry Lin, MD, PhD (2008-2010) – Now an Assistant Professor at Baylor College of Medicine.
         - Won the American Neurotology Society Trainee Award based on clinical research I mentored (2009)
      4) Richard Gurgel, MD (2010-pres) – currently in training
         - Received the Stanford Society of Physician Scholars collaborative research grant based on research proposal for work to be done in my lab.

   b. Pediatric otolaryngology
      1) Debra Weinberger, MD (2004-2006) – now an Assistant Professor at UT-Southwestern, Dallas
      2) Tulio Valdez, MD (2005-2007) – was an Assistant Professor at Baylor College of Medicine; now in private practice
      3) John Gavin, MD (2006-2007) – now in private practice
      4) Binoy Chandy, MD (2007-2008) – now an Assistant Professor at Baylor College of Medicine
      5) Shraddha Mukerji, MD (2007-2008) – now an Assistant Professor at University of Texas – Medical Branch, Galveston, TX.
      6) Vicky Owczarzak, MD (2008-2009) – now an Assistant Professor at Baylor College of Medicine.
      7) Tony Kille, MD (2008-2009) – now an Assistant Professor at University of Wisconsin – Madison.
      8) Julina Onkasguan (2009-2010) – now in laryngology fellowship at UCSF.
      9) Rachelle Wareham (2009-2010) – now an Assistant Professor at Loma Linda University.

4. Research fellow training
   1) Gentiana Wenzel, MD (2003-2005) – now a ENT Faculty Specialist, Saarland University, Germany.
      - Received the Thyssen Mentored Research Grant while in my lab (2005) - $58,000E
   2) Chul-Hee Choi, PhD (2003-2006) – Department Chair of Audiology and Speech-Language Pathology, Catholic University of Daegu, Korea.
      - Received an American Academy of Audiology mentored research grant while in my lab (2005) - $10,000
   3) Tao Yuan, PhD (2007-2010) – Now a post-doctoral fellow at Baylor College of Medicine.
   4) Alec Sevy, MD (2008-2010) – Now a resident in otolaryngology at Baylor College of Medicine (research track).
      - Received Association for Research in Otolaryngology Resident Travel Awards for work in my lab (2009&2010)

5) Sung-Il Cho, MD (2011-2012) – Assistant Professor, Dept. of Otolaryngology – Head and Neck Surgery, Chosun University Hospital, South Korea
6) Anping Xia, MD, PhD (2003-2008 & 2010-pres.) – Senior Research Scientist

5. Graduate student training
   1) Simon Gao, BS (2008-pres.) - currently in training
      - Received Association for Research in Otolaryngology Resident Travel Award for work in my lab (2009)
6. Medical students rotating through my lab for basic science research training
   1) Robert Schmidt, BS (2004) – otolaryngology residency
   2) Drew Sawyer, BS (2004) – otolaryngology residency
   3) Calvin Wei, BA (2005) – otolaryngology residency
   4) Sally Merryman, BS (2005) – otolaryngology residency
   5) Vikram Shenoy, BS (2005-2006) – otolaryngology residency
   6) Justo Gonzalez, BS (2006) – surgery residency
   7) Alec Sevy, BS (2007) – otolaryngology residency
      - Accepted into the Baylor College of Medicine Resident Research Tract in Otolaryngology – Head and Neck Surgery.
   8) Christopher Liu (2008-2009) – otolaryngology residency
      - Received Howard Hughes Medical Institute Research Training Fellowship Grant for Medical Students ($38,000) for his one year research project
      - Received Association for Research in Otolaryngology Resident Travel Award for work in my lab (2010)
   9) Chrystal Obi (2008) – currently in medical school at Univ of Pittsburgh
   10) Ilene Chiu (2009-2010) – otolaryngology residency (research track position)
   11) William Clifton (2009-2010) – currently in medical school
      - Received Howard Hughes Medical Institute Research Training Fellowship Grant for Medical Students ($38,000) for his one year research project
   12) Cristen Olds (2011-pres) – currently in medical school
      - Received Medical Scholars Research Program grant for work in my lab ($12,000)
7. Undergraduate students rotating through my lab for basic science research training
   1) Amaan Mazhar (2004-2005) – bioengineering graduate school
   2) Audrey Nath (summer 2004) – bioengineering graduate school
   3) Avni Mody (summer 2008 & 2009) –Now a medical student at Texas A&M
   4) Jashan Bhumkar (summer 2011) – Undergraduate studies at UC-Berkeley.
   5) Jacqueline Wachtel (summer 2011) – Undergraduate studies at UCSD.

D. Lectures

1. International
   a. Invited Foreign Speaker, The 4th Assiut Otorhinolaryngology Conference in collaboration with the Egyptian O.R.L. Society. Pyramisa Isis Hotel, Luxor, Egypt (Dec, 2010)

2. National
   a. CME Course Faculty, Otology and Neurotology Update, University of California-San Francisco: Retrocochlear Diagnosis (Oct, 2002)

b. Grand Rounds, Dept of Otolaryngology - Head and Neck Surgery, University of California-Davis: Modulation of Cochlear Nanomechanics (Apr, 2003)
c. American Neurotologic Society Fall Scientific Session, New York City: Surgery of the Inner Ear (Sept, 2004)
d. CME Course Faculty, Otology and Neurotology Update, Stanford University: How the cochea works; Complications of otitis media (Nov, 2006)
e. CME Course Faculty, Otology and Neurotology Update, Stanford University: How the ear works (Nov, 2008)
f. CME Course Faculty, Otology and Neurotology Update, Stanford University: (Nov, 2010)
g. CME Course Faculty, Pediatric Otolaryngology Update, Stanford University: (Feb, 2011)
h. Invited speaker, Advances in Molecular Diagnostics and Therapeutics in Otology Panel, The American Neurotological Society. Inner Ear Diagnostics (May, 2011)
i. Invited speaker, Diagnosing hearing loss: the future of cochlear imaging. Baylor College of Medicine Alumni Reunion Weekend Scientific Symposium (May 2012).

3. Regional
a. The Ear 2000, Association of Houston Audiologists, Houston, TX: Active Hearing or How Does the Cochlea Really Work? (Jan, 2000)
b. Santa Clara Valley Chapter Meeting of the Institute of Electrical and Electronic Engineers, Engineering in Medicine and Biology Society: NANOMECHANICS IN THE COCHLEA: How the inner ear works and what happens when it doesn't (Apr, 2003)
c. Guest Lecturer for the annual meeting of the Texas Neurofibromatosis Society: Tumors of the Head, Neck, and Skull Base in Patients with NF1 and NF2 (May, 2007)
d. Do You Hear What I Hear? A resource for identifying and managing hearing loss. Workshop sponsored by St. Luke's United Methodist Church, the Hearing Loss Association – Houston Chapter, and the Office for Deaf and Hard of Hearing Services (March, 2009)
e. Presentation at the monthly meeting of the regional Acoustic Neuroma Patient Support Group: Hearing Loss, Tinnitus, and Vestibular Schwannoma. (Dec, 2010).
f. Visiting Guest Faculty, The Research Study Club, Los Angeles, CA (Feb, 2012)

4. Local
a. Dept of Endocrinology Grand Rounds, Baylor College of Medicine, Houston, TX: Minimally Symptomatic Hyperparathyroidism (May, 1996)
b. Dept of Geriatrics Grand Rounds, Baylor College of Medicine, Houston, TX: Geriatric Balance Disorders (May, 1998)
c. CME Course Faculty, ENT for the Primary Care Physician, St. Luke's Episcopal Hospital, Houston TX: Earaches: Causes and Cures (Mar, 2004)
d. Grand Rounds, Dept of Otolaryngology - Head and Neck Surgery, University of Texas-Houston: Management of Acoustic Neuroma (Aug, 2004)
e. CME Course Faculty, Otology and Neurotology Update, Stanford University: How the Ear Works; Microsurgery within the Inner Ear (Nov, 2004)

f. Dept of Neurology Grand Rounds, Baylor College of Medicine, Houston, TX: Skull Base Surgery (Feb, 2006)
g. Evening with Genetics – monthly family seminar series at the Children's Museum of Houston: The Genetics of Hearing Loss: How Early Evaluation, Diagnosis, and Treatment Can Help Your Child (Jan, 2007)
h. Evening with Genetics – monthly family seminar series at the Children's Museum of Houston: Turning up the volume on adult hearing loss (Mar, 2010)
   At this seminar on adult hearing loss we will discuss how changes in genes can cause some types of adult hearing loss, an overview of current treatments and research, vision abnormalities linked to some types of hearing loss and the personal perspective and information about local resource
i. Geriatric Research Education and Clinical Center Grand Rounds, Stanford University and Palo Alto VAH: Turning up the volume on adult hearing loss (Nov, 2010).

E. University Visiting Professorships

1. University of Michigan, Dept of Otolaryngology, Visiting Professor (Sept, 2008)
2. Texas A&M Dept of Neuroscience (Oct, 2008)
3. Stanford University, Dept of Otolaryngology, Visiting Professor (Jan, 2010)
4. University of Pennsylvania, Dept of Otolaryngology, Visiting Professor / Guest Instructor for temporal bone course (Sept, 2011)
5. Case Western University, Dept of Neuroscience, Visiting Professor (May, 2012)

IV. MEDICAL AND SERVICE INFORMATION

A. Patient care responsibilities at Stanford and/or its affiliated institutions

1. Director of The Children's Hearing Center at LPCH (2020-pres.).
   1) This multi-specialty center of excellence focuses on the care of children with atresia, chronic otitis media and cholesteatoma, sensorineural hearing loss, and anterior and lateral skull base tumors.
   2) We are one of the largest pediatric cochlear implant programs in the U.S.
   3) Our team includes members from Otolaryngology, Audiology, Speech and Language Pathology, Psychology, Genetics, Ophthalmology, Pediatric Neurology, Neurosurgery, Plastic Surgery, Neuroradiology, Medical Oncology, Radiation Oncology, and Pathology.

2. Adult Otology, Neurotology, and Skull Base Surgery at The Stanford Hospital and Clinics (2010—pres.).
   1) These responsibilities involve the care of patients with complex disorders of the ear and temporal bone.
   2) In particular, I commonly work in collaboration with the Stanford Department of Neurosurgery as a member of the skull base team. This involves the treatment of patients with cranial base tumors, either by microsurgical removal or stereotactic radiation.

B. Clinical laboratory responsibilities – n/a

C. National education or voluntary health organization participation – n/a

D. Hospital privileges and committee appointments (Current)

1. Stanford Hospital and Clinics (2010-pres.)
2. Lucille Packard Children's Hospital at Stanford (2010-pres.)

E. Hospital privileges and committee appointments (past)

1. Texas Children's Hospital, 6621 Fannin St. Houston, TX 77030 (2003-pres.)
   a. Department of Ambulatory Care Committee – Texas Children's Hospital (2007-pres.)
   b. Medical Records Committee - Texas Children's Hospital (2007)
2. The Methodist Hospital, 6565 Fannin Street, Houston, TX 77030 (2003-pres.)
   a. Operating room cost committee (2005)
3. St. Luke's Episcopal Hospital, 6720 Bertner Avenue, Houston, TX 77030 (2003-pres.)
4. Ben Taub Harris County Hospital, 1504 Taub Loop, Houston, TX 77030 (2003-pres.)
5. Houston Michael E. DeBakey Veterans Affairs Hospital, 2002 Holcombe Blvd., Houston, TX 77030 (2003-pres.)
6. University of California - San Francisco Medical Center, 505 Parnassus Ave, San Francisco, CA 94143-0208 (2001-2003)
7. San Francisco General Hospital, 2789 25th Street, San Francisco, CA 94110 (2001-2003)
8. San Francisco Veterans Affairs Medical Center, 4150 Clement Street, San Francisco, CA. 94121 (2001-2003)

F. Administrative assignments (current)

1. Alternate Departmental Senator to the Medical School Faculty Senate (2011-2013)
2. Health Information Management Services (HIMS) committee member, Lucile Packard Children's Hospital (2012-)

G. Administrative assignments (past)

1. Translational Research Graduate School Program committee (2004)
2. Nanomedicine workshop program committee (2007)
3. Co-organizer of "Grand challenges for Nanomedicine and Nanobiology" workshop for researchers at Baylor College of Medicine, Rice University, MD-Anderson, and UTMB (2007)