

CURRICULUM VITAE (May 1st 2020)

Alan Gi-Lun Cheng, M.D., FACS

Education

Johns Hopkins University, Baltimore, MD	B.S.	August 1991 - May 1995
Albert Einstein College of Medicine, Bronx, NY	M.D.	August 1995 - June 1999

Postgraduate Training/Appointment

<i>Internship</i> , Department of Surgery University of Washington, Seattle, WA		June 1999 - June 2000
<i>NIH T32 Postdoctoral Research Fellowship</i> , Department of Otolaryngology– Head and Neck Surgery, University of Washington, Seattle, WA <i>Advisor: Edwin W Rubel</i>		July 2000 - June 2002
<i>Residency</i> , Department of Otolaryngology–Head and Neck Surgery University of Washington, Seattle, WA		July 2002– June 2006
<i>Fellowship</i> , Department of Otolaryngology and Communication Disorders, Children’s Hospital Boston, Boston, MA		July 2006– June 2007
<i>Assistant Professor (University tenure line)</i> , Department of Otolaryngology– Head and Neck Surgery and Pediatrics, Stanford University School of Medicine		Sept. 2007– Sept. 2014
<i>Associate Professor with tenure</i> , Department of Otolaryngology– Head and Neck Surgery and Pediatrics, Stanford University School of Medicine		Sept. 2014– May 2020
<i>Professor</i> , Department of Otolaryngology- Head and Neck Surgery and Pediatrics, Stanford University School of Medicine		June. 2020– present
<i>Co-Director</i> , NIH/NIDCD T32 Clinician-scientist training program, Department of Otolaryngology- Head and Neck Surgery, Stanford University School of Medicine, Palo Alto, CA		June 2016– August 2017
<i>Director</i> , NIH/NIDCD T32 Clinician-scientist training program, Department of Otolaryngology- Head and Neck Surgery, Stanford University School of Medicine, Palo Alto, CA		Aug. 2017– present
NIDCD/NIH Standing Committee Member, Communication Disorders Review Committee (CDRC).		Oct. 2018– 2022
Interim Chief, Division of Pediatric Otolaryngology, Department of Otolaryngology-Head and Neck Surgery, Stanford University SOM		Nov. 2018– Sept. 2019
<i>Chief</i> , Division of Pediatric Otolaryngology, Department of		Oct. 2019–

Honors & Awards

1993	Tau Beta Pi (National Engineering Honor Society)
1994	Omicron Delta Kappa (Leadership Honor Society)
1994	Phi Beta Kappa
1998	Alpha Omega Alpha
1998	Neuropathology research training fellowship
1999	Graduated with Special Distinction for Research in Otobiology
2001	Association for Research in Otolaryngology Resident Travel Award
2001	Shiley Resident Research Grant of the American Academy of Otolaryngology-Head and Neck Surgery
2002	Association for Research in Otolaryngology Resident Travel Award
2005	Association for Research in Otolaryngology Resident Travel Award
2008-9	Percy Memorial Research Award
2008-10	American Otological Society Clinician-Scientist Award
2009-10	Triological Society Career Development Award
2010-12	Herbert Silverstein Otology-Neurotology Research Award
2011-16	Akiko Yamazaki and Jerry Yang Faculty Scholar
2011	Keynote speaker, the 28 th Politzer Society Meeting, Athens, Greece.
2012	Bass Society of Pediatric Scholars
2012	California Institute for Regenerative Medicine New Faculty Physician-Scientist Translation Research award
2013	American Academy of Otolaryngology-HNS Foundation Honor award
2015	Geraldine Dietz Fox Young Investigator Award
2015	Keynote speaker, OPTION Schools Annual Conference, Sacramento, CA.
2016	Keynote speaker, 2 nd Hearing Science Conference, from hair cell to cerebral cortex, Jinan, Shandong, China.
2017	Keynote speaker, 3 rd Hearing Science Conference, from hair cell to cerebral cortex, Nanjing, China.
2019	Keynote speaker, 5 th Hearing Science Conference, from hair cell to cerebral cortex, Beijing, China.

Board Certification

- American Board of Otolaryngology 2007-present

Professional Organizations/Committee

- 1) Member, American Academy of Otolaryngology-Head and Neck Surgery
- 2) Associate Member, Association for Research in Otolaryngology
- 3) Ad hoc journal reviewer: Archives of Otolaryngology-Head and Neck Surgery, Apoptosis, Brain Research, Journal of Pediatric Infectious Diseases, International Journal of Pediatric Otorhinolaryngology, JARO, PLoS One, Hearing Research, Otology-Neurotology, Journal Visual Experiments, Laryngoscope, Otolaryngology-HNS, Developmental Dynamics, Stem Cells, Current Biology, Molecular Neurobiology, Journal of Comparative Neurology, Stem Cells Reviews and Reports, Journal of Neuroscience, Journal of Clinical Investigation, Neuroscience, Pediatrics,

Scientific Reports, Developmental Biology, Nature Cell Biology, Nature Communications, Nature Biotechnology, Seminars - Cell and Developmental Biology, Plos Pathogens, Journal of Medicinal Chemistry, eLife, Cell Reports, Stem Cell Reports, Frontiers Cellular Neuroscience.

- 4) Grant reviewer for AAOHNS CORE (2007-present), RNID (2008-present), Hearing Health Foundation (2011-15), BBRSC (2010-present), MRC (2010-present), Wellcome Trust (2015-present), American Association for Advancement of Science (2016), Child Health Research Institute at Stanford (2007-present), NIH/NIDCD CDRC standing member (2018-2022).
- 5) RR&D Scientific Review (August 2015, July 2016, March 2017)
- 6) NIDCD AUD study section ad hoc member (October 2015).
- 7) Research committee member, American Society of Pediatric Otolaryngology (2010-2013)
- 8) Otolaryngology residency admission committee (2008-present)
- 9) Pediatric Otolaryngology fellowship admission committee (2008-present)
- 10) Otolaryngology faculty search/interview committee (2007-present) for 8 filled positions.
- 11) Faculty member, Clinical Research Foundation Advisory Committee, Stanford University School of Medicine (2008-present)
- 12) Faculty member, Stanford University School of Medicine Admission Committee (2008-2010)
- 13) Study Section, CORE Grant, American Academy of Otolaryngology-HNS (2008-present),
- 14) Study Section, Hearing Health Foundation (2011-2015).
- 15) Faculty member, Stanford Immersion in Medicine Series (2008-present)
- 16) Faculty member, PPEC Committee, Department of Otolaryngology-HNS, Stanford University (2009-2011)
- 17) Member, American Society of Pediatric Otolaryngology (2010-present)
- 18) Hearing committee, American Academy of Otolaryngology-Head and Neck Surgery (2010-2016)
- 19) Pediatric Education Committee, American Academy of Otolaryngology-Head and Neck Surgery (2014-present)
- 20) Lucile Packard Children's Hospital Quality Improvement Committee (2011-present)
- 21) Lucile Packard Children's Hospital Credentials Committee (2012-2014)
- 22) F1000 Associate Member (2009-present)

- 23) Member, Stanford Bio-X Program (2009-present)
- 24) Member, Stanford Cancer Institute (2011-present)
- 25) Member, Child Health Research Institute (2011-present)
- 26) Provost's Advisory Committee on Postdoctoral Affairs (2012-2018)
- 27) Association of Research in Otolaryngology program committee (2013-2016)
- 28) Chair, ASPO Research Committee (2014-2016)
- 29) Editorial Board, International Journal of Pediatric Otorhinolaryngology (2014-present)
- 30) Research committee Department of Otolaryngology-HNS (2008-2013)
- 31) Operative committee, Department of Otolaryngology-HNS (2014-2016)
- 32) Faculty, Stanford Neuroscience graduate program (2015-present)
- 33) Faculty, Stanford MSTP program (2015-present)
- 34) Faculty search committee (2015-2016) for Division of Pediatric Otolaryngology, Department of Otolaryngology.
- 35) Association of Research in Otolaryngology publication committee (2016-present)
- 36) NIDCD ZDC1 SRB-R (33) study section member June 2016.
- 37) Scholarly activity committee, Department of Otolaryngology-HNS (2016-present)
- 38) Scientific Advisory board member, Decibel (2016-present)
- 39) Medical Advisory Board member, Quark (2016)
- 40) Member, Stanford MSTP Admission Committee (2016-present)
- 41) Scientific Advisory board member, GSK (2016)
- 42) Co-chair, Annual Otolaryngology Research day (2016-2018)
- 43) Invited Reviewing editor, Proc Natl Acad Sci (2016)
- 44) Faculty search committee (2016-17) for Division of Facial Plastics, Department of Otolaryngology.
- 45) Faculty search committee (2016-17) for Division of Pediatric Otolaryngology, Department of Otolaryngology.

- 46) Faculty search committee (2016-17) for Division of Research, Department of Otolaryngology.
- 47) Association of Research in Otolaryngology Long Range Planning committee (2018-present)
- 48) Ad hoc study section member NIDCD/NIH (ZDC1 SRB-K19) (2018 November)
- 49) External advisory committee (2019-present) for T32 training program at Department of Otolaryngology-Head and Neck Surgery at Massachusetts Eye and Ear Infirmary.
- 50) External advisory committee (2020-present) for T32 training program at Department of Head and Neck Surgery at UCLA.
- 51) Faculty search committee (2019-20) for Division of Neuroradiology, Department of Radiology.

Publications (peer reviewed)

1. Patel MD, **Cheng AG**, Callen PW. (1995) Lateral ventricular effacement as an isolated sonographic finding in premature infants: Prevalence and significance. **AJR Am J Roentgenol** 165(1):155-9.
2. **Cheng AG**, Huang T, Stracher A, Kim A, Liu W, Malgrange B, Lefebvre PP, Schulman A, Van De Water TR. (1999) Calpain inhibitors protect auditory sensory cells from hypoxia and neurotrophin-withdrawal induced apoptosis. **Brain Res** 850(1-2):234-43.
3. Huang T, **Cheng AG**, Stupak H, Liu W, Kim A, Staecker H, Lefebvre PP, Malgrange B, Kopke R, Moonen G, Van De Water TR. (2000) Oxidative stress-induced apoptosis of cochlear sensory cells: otoprotective strategies. **Int J Dev Neurosci** 18(2-3):259-70.
4. Cunningham LL, **Cheng AG**, Rubel EW. (2002) Caspase activation in hair cell death in the adult mouse utricle. **J Neurosci** 22(19):8532-40.
5. **Cheng AG**, Cunningham LL, Rubel EW. (2003) Hair cell death in the avian basilar papilla: characterization of the in vitro model and caspase activation. **J Assoc Res Otolaryngol** 4:91-105.
6. Harris JA, **Cheng AG**, Cunningham LL, MacDonald G, Raible DW, Rubel EW. (2003) Neomycin-induced hair cell death and rapid regeneration in the lateral line of zebrafish (*Danio rerio*). **J Assoc Res Otolaryngol** 4:219-34.
7. Hu S, Walker M, Czartoski T, **Cheng A**, Forghani B, Gilden DH, Garden GA. (2004) Acyclovir responsive brainstem disease after the Ramsay Hunt syndrome. **J Neurol Sci** 217:111-113.
8. **Cheng AG**, Cunningham LL, Rubel EW (2005) Mechanisms of hair cell death and protection. **Curr Opin Otolaryngol Head and Neck Surg** 13(6):343-348.
9. **Cheng AG**, Chang A, Farwell DG, Agoff SN. (2005) Auramine O stain with fluorescence microscopy is a rapid and sensitive technique for the detection of cervical lymphadenitis due to mycobacterial infection using fine needle aspiration cytology: a case series. **Otolaryngol-Head and Neck Surg** 133:381-385.

10. **Cheng AG**, Maronian NC, Futran ND. (2006) Cerebrospinal fluid leak in the neck: a rare complication of glomus vagale excision. **Otolaryngol-Head and Neck Surg** 134(2):334-335.
11. **Cheng AG**, Deubner H, Whipple ME. (2007) Melanoacanthoma of the external auditory canal: a case report and review of the literature. **Am J Otolaryngol** 28:433-435.
12. Ho A, Aleshi P, Cohen SE, Koltai PJ, **Cheng AG**. (2008) Airway management in Nager syndrome. **Int J Pediatr Otorhinolaryngol** 72(12):1885-8.
13. **Cheng AG**, Luz J, Johnston PR, Uluer A, Licameli G, Kenna MA, Jones DT. (2009) Hearing loss in patients with cystic fibrosis. **Otolaryngol Head and Neck Surg** 141(1):86-90.
14. Prabhu S, Zinkus T, **Cheng AG**, Rahbar R. (2009) Clival osteomyelitis resulting from spread of infection through fossa navicularis magna in a child. **Pediatr Radiol** 39(9):995-8.
15. Almond MC, **Cheng AG**, Schiedler V, Sires BS, Most SP, Jian-Amadi A. (2009) Decompression of the orbital apex: an alternate approach to surgical excision for radiographically benign orbital apex tumors. **Arch Otolaryngol Head and Neck Surg** 135(10):1015-1018.
16. Chai R, Xia A, Wang T, Jan T, Hayashi T, Bermingham-McDonogh, **Cheng AG**. (2011) Dynamic expression of Lgr5, a Wnt target gene, in the developing and mature mouse inner ear. **J Assoc Res Otolaryngol** 12(4): 455-469.
17. Sinkkonen ST, Chai R, Jan, T, Hartman B, Laske R, Gahlen F, Sinkkonen W, **Cheng AG**, Oshima K, Heller S. (2011) Intrinsic regenerative potential of murine cochlear supporting cells. **Sci Rep** 1, 26; DOI:10.1038/srep00026.
18. Alharazneh A, Luk L, Huth M, Monfared A, Steyger P, **Cheng AG***, Ricci A* (2011). Functional hair cell mechanotransducer channel is required for aminoglycoside ototoxicity. **PLoS One** DOI:10.1371/journal.pone.0022347. *co-corresponding authors.
19. Huth ME, Ricci AJ, **Cheng AG**. (2011). Mechanisms of aminoglycoside ototoxicity and targets of hair cell protection. **Int J Otolaryngol** Vol 2011, Article ID 937861, 19 pages, doi:10.1155/2011/937861.
20. Jan TA, Chai R, Sayyid ZN, **Cheng AG**. (2011) Isolating LacZ-Expressing Cells from Mouse Inner Ear Tissues using Flow Cytometry. **J Vis Exp** (58), e3432, DOI: 10.3791/3432.
21. Chai R, Kuo B, Wang T, Liaw EJ, Xia A, Jan TA, Liu Z, Taketo MM, Oghalai JS, Nusse R, Zuo J, **Cheng AG**. (2012) Wnt signaling induces proliferation of sensory precursors in the postnatal mouse cochlea. **Proc Natl Acad Sci USA**, 109(21):8167-72, 10.1073/pnas.1202774109.
22. Vu A, Nadaraja G, Huth M, Luk L, Kim J, Chai R, Ricci AJ, **Cheng AG**. (2013) Integrity and regeneration of mechanotransduction machinery regulates aminoglycoside entry and sensory cell death. **PLoS One** 8(1): e54794. doi:10.1371/journal.pone.0054794.
23. Jan TA, Chai R, Sayyid ZN, van Amerongen R, Xia A, Wang T, Sinkkonen ST, Levin JR, Zheng Y, Heller S, Nusse R*, **Cheng AG***. (2013) Tympanic border cells are Wnt-responsive and act as progenitors for the postnatal mouse cochlear cells. **Development** 140(6):1196-1206, DOI: [10.1242/dev.087528](https://doi.org/10.1242/dev.087528). *co-corresponding authors.

24. Herget M, Scheibinger M, Guo Z, Jan TA, Adams CM, **Cheng AG**, Heller S. (2013) A simple method for purification of vestibular hair cells and non-sensory cells, and application for proteomic analysis. **PLoS One** 8(6): e66026. doi:10.1371/journal.pone.0066026.
25. Volkenstein S, Oshima K, Sinkkonen ST, Corrales CE, Most SP, Chai R, Jan TA, **Cheng AG**, Heller S. (2013) A transient, afferent input-dependent, postnatal niche for neural progenitors in the cochlear nucleus. **Proc Natl Acad Sci USA** 110(35):14456-61, doi/10.1073/pnas.1307376110.
26. Cox BC, Chai R, Lenoir A, Liu Z, Zhang LL, Nguyen DH, Chalasani K, Steigelman KA, Fang J, Rubel EW, **Cheng AG***, Zuo J*. (2014) Spontaneous hair cell regeneration in the neonatal mouse cochlea in vivo. **Development** 141(4): 816-829 doi:10.1242/dev.103036. *co-corresponding authors.
27. Chang DT, Chai R, Dimarco R, Heilshorn SC, **Cheng AG**. (2014) Protein-engineered hydrogel encapsulation for 3D culture of murine cochlea. **Otol-Neurotol** 36(3):531-8 doi: 10.1097/MAO.0000000000000518.
28. Huth M, Han KH, Soutadeh K, Hsieh YJ, Effertz T, Vu AA, Verhoeven S, Hsieh MH, Greenhouse RJ, **Cheng AG***, Ricci AJ*. (2015) Designer aminoglycosides prevent cochlear hair cell loss and hearing loss. **J Clin Invest** pii: 77424. doi: 10.1172/JCI77424. *co-corresponding authors.
29. Tsao GJ, Messner AH, Seybold J, Sayyid ZN, **Cheng AG***, Golianu B. (2015) The effect of intraoperative acupuncture on post-tonsillectomy pain: a randomized, double-blind, placebo-controlled trial. **Laryngoscope** doi: 10.1002/lary.25252. *corresponding author.
30. Wang T, Chai R, Kim GS, Pham N, Nguyen DH, Kuo B, May L, Zuo J, Cunningham LL, **Cheng AG**. (2015) Lgr5+ cells regenerate hair cells via proliferation and direct transdifferentiation in damaged neonatal mouse utricle. **Nat Commun** 6:6613. doi: 10.1038/ncomms7613.
31. Jansson L, Kim GS, **Cheng AG**. (2015) Making sense of Wnt signaling - linking hair cell regeneration to development. **Front Cell Neurosci** 9:66. doi: 10.3389/fncel.2015.00066.
32. Atkinson PJ, Huarcaya Najarro E, Sayyid ZN, **Cheng AG**. (2015) Sensory cell development and regeneration: similarities and differences. **Development** 142(9), 1561-1571 doi:10.1242/dev.114926.
33. Jan TA, Jansson L, Atkinson PJ, Wang T, **Cheng AG**. (2016) Profiling specific inner ear cell types using cell sorting techniques. **Methods Mol Biol** 1427:431-45. doi: 10.1007/978-1-4939-3615-1_23.
34. O'Sullivan M, Perez A, Lin R, Ricci AJ, **Cheng AG**. (2017) Novel approaches to prevent aminoglycoside-related hearing loss. **Front Cell Neurosci**. 2017 Oct 18;11:325. doi: 10.3389/fncel.2017.00325.
35. O'Sullivan M and **Cheng AG**. (2018) Mind your ears: a new antidote to aminoglycoside toxicity? **J Med Chem** 61(1):81-83. doi: 10.1021/acs.jmedchem.7b01645.

36. Atkinson P, Dong Y, Gu S, Liu W, Huarcaya Najarro E, Udagawa T, **Cheng AG**. (2018) Sox2 haploinsufficiency primes regeneration in the mouse cochlea. **J Clin Invest**. Apr 2;128(4):1641-1656. doi: 10.1172/JCI97248.
37. Sayyid ZN, Kim GS, **Cheng AG**. (2018) Molecular therapy for genetic and degenerative vestibular disorders. **Curr Opin Otolaryngol Head and Neck Surg** doi: 10.1097/MOO.0000000000000477.
38. O'Sullivan M, Poitevin, F, Sierra RG, Gati C, Dao EH, Rao Y, Aksit F, Ciftci H, Corcepius N, Hayes B, Hunter M, Liang M, McGurk A, Mbgam P, Obrinsky T, Pardo F, Seaberg M, **Cheng AG**, Ricci AJ, DeMirci H. (2018) Aminoglycoside ribosome interactions reveal novel conformational states at ambient temperature. **Nucleic Acids Res** doi: 10.1093/nar/gky693.
39. Atkinson PJ, Kim GS, **Cheng AG**. (2019) Cellular reprogramming and inner ear regeneration. **Expert Opin on Biol Ther** doi: 10.1080/14712598.2019.1564035.
40. Wang T, Niwa M, Sayyid ZN, Hosseini D, Pham N, Jones SM, Ricci AJ*, **Cheng AG***. (2019) Uncoordinated maturation of developing and regenerating mammalian vestibular hair cells. **PLoS Biol** 10.1371/journal.pbio.3000326. *co-corresponding authors.
41. Sayyid ZN, Wang T, Chen L, Jones SM, **Cheng AG**. (2019) Atoh1 directs regeneration and functional recovery of the mature mouse vestibular system. **Cell Rep** Jul 9;28(2):312-324.e4. doi: 10.1016/j.celrep.2019.06.028.
42. Jansson L, Ebeid MM, Shen JW, Mokhtari T, Quiruz LA, Ornitz D, Huh SH*, **Cheng AG***. (2019) Beta-Catenin is required for radial cell patterning and identity in the developing cochlea. **Proc Natl Acad Sci USA**. Oct 15;116(42):21054-21060. doi: 10.1073/pnas.1910223116. *co-corresponding authors.
43. Denoyelle F, Simon F, Chang KW, Chan KH, **Cheng AG**, Cheng AT, Choo DI, Daniel SJ, Farinetti A, Garabedian E-N, Greinwald JH, Hoff SR, Hone S, Licameli GR, Papsin BC, Poe DS, Pransky S, Smith RJH, Triglia J-M, Walton J, Zalzal G, Leboulander N. (2019) International Pediatric Otolaryngology Group (IPOG) Consensus Recommendations: Congenital Cholesteatoma. **Otol Neurotol** doi:10.1097/MAO.00000000000002521.
44. Sayyid ZN, Boldt B, Mokhtari T, Kiyosaki K, Yeom KW, Cheng AG. (2020) Congenital Hearing Loss is Associated with a High Incidence of Central Nervous System Abnormalities. *Otology-Neurotol* (in press).

Manuscript in revision:

1. Xia A, Udagawa T, Steele C, Applegate B, **Cheng AG***, Oghalai JS*. (2020) Targeted cell ablation reveals how traveling wave amplification accumulates in the mature mouse cochlea (in revision). *co-corresponding authors.
2. Udagawa T, Milon B, Atkinson P, Song Y, Huarcaya Najarro E, Hertzano R, **Cheng AG**. (2020) Robust mitotic regeneration of cochlear supporting cells after ablation of Lgr5+ cells. (in revision).

3. Moon P, Qian J, McKenna E, Rowe N, Xi K, Ng N, Tam L, MacEchern S, Zheng J, Ahmad I, **Cheng AG**, Forkert N, Yeom K. (2020) Cerebral volume and diffusion MRI changes in children with sensorineural hearing loss (in revision).
4. Trieu V, Hosseini D, Kim GS, Truong MT, **Cheng AG** (2020) Congenital Orocutaneous Fistula Associated with Ectopic Salivary Glands and Submandibular Gland Aplasia (in revision).

Publications (chapters)

1. Green GA and **Cheng AG**. (2011) Pediatric Surgical Subspecialties. Pediatrics for Medical Students 3rd Ed.
2. **Cheng AG** and Heller S. (2013) Regenerative strategies for overcoming deafness. Bailey Head and Neck Surgery-Otolaryngology 5th Ed.
3. **Cheng AG** and Jackler RK. (2015) Congenital malformations of the inner ear. Cummings Otolaryngology: Head and Neck Surgery 5th Ed.
4. **Cheng AG** and Heller S. (2017) Hair cell regeneration. Ballenger's Otorhinolaryngology Head and Neck Surgery 18th Ed.
5. Jan TA, Jackler RK, **Cheng AG**. (2019) Congenital malformations of the inner ear. Cummings Otolaryngology: Head and Neck Surgery 6th Ed.

Patent

1. US Patent 9238670 Aminoglycoside antibiotics with reduced ototoxicity (March 14th 2014)

Research Funding

Active:

1) NIDCD/NIH RO1DC013910 Cheng (PI) 7/1/15-6/30/20

Title: Pathways towards regenerating the mammalian cochlea

This project aims to characterize and manipulate endogenous cochlear cells to regenerate postnatal organ of Corti after aminoglycoside injury or selective ablation of hair cells or supporting cells.

2) NIDCD/NIH RO1DC014720 Ricci and Cheng (PI) 12/1/2015-11/30/2020

Title: Designing new aminoglycosides to alleviate inner ear toxicity

This project aims to design, synthesize, and test new aminoglycoside-derivatives that can be less ototoxic and nephrotoxic *in vitro* and *in vivo*.

3) NIDCD/NIH T32 DC015209 Cheng (PI) 7/1/2016-6/30/2021

Title: Clinician-scientist training program in Otolaryngology

This program aims to train otolaryngology residents and post residency graduates to become physician scientists.

4) NIH/NIDCD F30 DC015698 Sayyid (PI) 7/1/2016-6/30/2020

Title: Examination of the molecular features and function of the hair cell-synaptic complex in the spontaneously and Atoh1-enhanced regenerating adult mouse utricle.

Role: Mentor

5) NIDCD U01 DC014706-01A1 Park (PI) 8/1/2017-7/31/2022
Title: Randomized Controlled Trial of Valganciclovir for Asymptomatic Cytomegalovirus Infected Hearing Impaired Infants (ValEAR Trial)
This program aims to study CMV-related hearing loss and the utility of valganciclovir.
Role: Site PI

6) NIDCD/NIH RO1DC016919 Cheng (PI) 12/1/2018-11/30/2023
Title: Mouse vestibular regeneration and function
The goal of this research is to understand the relationship between regeneration and function in the mouse vestibular system.

7) CIRM DISC2-10537 Cheng (PI) 2/1/19-1/31/21
Title: Modulation of the Wnt pathway to restore inner ear function
The goal of this research is to study the effects on Wnt activation on mouse and human vestibular organs.

8) NIH/NIDCD Pediatric Loan repayment program Aaron (PI) 7/1/19-6/30/21
Title: Modeling and Restoring Hearing and Vestibular Deficit of Non-Syndromic Deafness.
The goal of this project is to apply gene therapy to restore TMPRSS3-related inner ear disorders.
Role: Mentor

9) Decibel Cheng (PI) 1/1/19-4/30/21
Title: Vestibular regeneration
The goal of this project is to test the role of Atoh1 gene transfer in the mature mouse utricle.

Completed Research Support:

1) AAOHNS Resident Research Grant Cheng (PI) 7/1/01-6/30/02
Title: Molecular studies of hair cell death: caspase activation and inhibition.
The goal of this project is to study the role of caspase proteases in hair cell death caused by aminoglycosides.

2) NIH/NIDCD NRSA postdoctoral fellowship F32 Cheng (PI) 8/1/01-6/30/02
Title: Molecular studies of hair cell death: caspase activation and inhibition.
The goal of this project is to study the role of caspase proteases in hair cell death caused by aminoglycosides.

3) Deafness Research Foundation Cheng (PI) 1/1/04-12/31/04
Title: Mechanisms of hair cell death and survival in mouse organ of Corti
The goal of this project is to study the roles of cell death and survival pathways in inner ear hair cells.

4) American Otological Society Clinician-Scientist Award Cheng (PI) 7/1/08-6/30/10
American Otological Society
Title: Differentiation of inner ear stem cells.
The goal of this project is to examine the differentiation potential of inner ear stem cells *in vitro*.

5) AAOHNS Percy Memorial Research Award Cheng (PI) 7/1/08-6/30/09
American Academy of Otolaryngology-Head and Neck Surgery Foundation
Title: Hair cell regeneration: chimeric chicken/mouse ears.
The goal of this project is to study how the inner ear stem cells differentiate into hair cells and supporting cells under the influence of the developing chicken inner ear.

- 6) American Society of Pediatric Otolaryngology Nadaraja (PI) 7/1/09-6/30/10
Title: Mechanisms of aminoglycoside uptake in murine hair cells.
The goal of this project is to understand how aminoglycoside enters inner ear hair cells.
Role: Mentor
- 7) Triological Society Research Career Development Award Cheng (PI) 8/1/09-7/31/10
Title: The role of wnt signaling in maintaining the inner ear stem cells.
The goal of this project is to characterize wnt-responsive stem/progenitor cells in the inner ear.
- 8) Herbert Silverstein Otology-Neurotology Research Award Cheng (PI) 7/1/10-6/30/12
Title: Blockage of aminoglycoside entry into hair cells.
The goal of this project is to design novel strategies to block aminoglycoside entry into hair cells.
Role: PI
- 9) CORE resident research grant Chang (PI) 7/1/12-6/30/13
Title: Protein-engineered hydrogel as a delivery vehicle for mouse inner ear stem cells.
The goal of this project is to develop a 3D platform to culture cochlea-derived progenitor cells.
Role: Co-investigator/Mentor
- 10) Wiley Harrison Memorial research grant Cheng (PI) 7/1/12-6/30/13
Title: Characterizing hair cell regeneration in the mouse utricle
The goal of this project is to establish *in vitro* and *in vivo* protocols of studying the damaged utricles.
- 11) National Organization of Hearing Health Cheng (PI) 6/1/12-5/31/13
Title: Characterization of hair cell progenitors from cochlea- and iPS-cell derived cells
The goal is to characterize isolated cochlea- and iPS-cell derived hair cell precursors *in vitro*.
- 12) Hearing Health Foundation Chai (PI) 7/1/12-6/30/13
Title: Characterization of Wnt-responsive progenitor cells in the mammalian cochlea.
The goal of this project is to study Wnt-responsive cells in the developing cochlea *in vivo*.
Role: Co-investigator/Mentor
- 13) NIDCD/NIH R21 Ricci (PI) 9/21/11-8/31/14
Title: Non-ototoxic aminoglycosides
The goal of this project is to study the transport and novel aminoglycosides *in vitro* and *in vivo*.
Role: Co-PI
- 14) SPARK Ricci (PI) 1/1/11-12/31/14
Title: Reshaping aminoglycosides
The goal of this project is to design novel aminoglycoside compounds that are cannot enter hair cells.
Role: Co-PI
- 15) Children's Health Research Institute Wang (PI) 8/1/12-7/31/14
Title: Characterization of hair cell regeneration in the mouse utricle.
The goal of this project is to study the role of Wnt signaling in the regenerating mouse utricle.
Role: Mentor

- 16) NIDCD/NIH K08DC011043 Cheng (PI) 7/1/10-6/30/15
Title: Regulation of inner ear stem cells.
The goal of this project is to study the role of Wnt signaling in the postnatal cochlear supporting cells.
- 17) Children's Health Research Institute Huarcaya Najarro (PI) 7/1/14-8/30/15
Title: Disruption of Wnt secretion via conditional deletion of porcupine and wntless in the developing mouse cochlea.
The goal of this project is to study the role of Wnt secreting cells in the developing mouse cochlea.
Role: Mentor
- 18) SPARK/Stanford University SOM Ricci (PI) 1/1/14-12/31/15
Title: Small molecule activators of Aldehyde Dehydrogenase protect against cisplatin-induced ototoxicity.
The project evaluates the roles of ALDA proteins in cisplatin ototoxicity.
Role: Collaborator
- 19) Swedish Research Council (Vetenskapsradet) Jansson (PI) 1/1/13-5/4/16
Title: Characterizing stem cells in the regenerating inner ear
This supports a postdoctoral fellowship to study cochlear progenitor cells after damage.
Role: Mentor
- 20) Akiko Yamazaki and Jerry Yang Faculty Scholar Award Cheng (PI) 9/1/11-8/31/16
Title: The role of Wnt signaling in regulating the endogenous cochlear stem cells.
The goal of this project is to characterize Wnt-responsive cochlear stem cells *in vivo*.
- 21) Department of Defense W81XWH-14-1-0517 Cheng (PI) 9/30/14-9/29/17
Title: Regenerating the blast and noise damaged cochlea
This project applies Wnt activators or reprogramming factors to regenerate the blast or noise damaged cochlea.
- 22) California Institute for Regenerative Medicine RN3-06529 Cheng (PI) 6/1/13-5/31/18
Title: Enhancing hair cell regeneration in mouse and human inner ear
The goal of this project is to characterize Wnt-responsive progenitor cells in the mouse and human utricles and whether active Wnt signals can enhance hair cell regeneration.
- 23) Garnett Passe/Rodney Williams Memorial Foundation fellowship Atkinson (PI) 7/1/2016-6/30/2018
Title: Cellular reprogramming to regenerate the sensory cells of the inner ear.
This supports a postdoctoral fellowship to study hair cell regeneration.
Role: Mentor
- 24) American Society of Pediatric Otolaryngology Jan (PI) 7/1/17-6/30/18
Title: Single cell RNA-sequence analysis of inner ear progenitor cells.
The goal of this project is to understand mechanisms of neonatal utricle hair cell regeneration.
Role: Mentor
- 25) NRSA postdoctoral fellowship F32 DC014623 Huarcaya Najarro (PI) 9/4/15-9/3/18

Title: Disruption of Wnt secretion via conditional deletion of porcupine and wntless in the developing mouse cochlea.

The goal of this project is to study the role of Wnt secreting cells in the developing mouse cochlea.

Role: Mentor

26) CORE resident research grant Kim (PI) 7/1/17-6/30/18

Title: Structure and Function of the Regenerating Mammalian Vestibular System.

The goal of this project is to characterize the innervation pattern of the regenerating mouse utricle.

Role: Mentor

27) NIH/NIDCD Pediatric Loan repayment program Jan (PI) 7/1/17-6/30/19

Title: Single cell RNA-sequence analysis of inner ear progenitor cells and mechanisms of Wnt modulation

The goal of this project is to understand mechanisms of hair cell regeneration.

Role: Mentor

28) NIH/NIDCD Pediatric Loan repayment program Kim (PI) 7/1/17-6/30/19

Title: Structure and Function of the Regenerating Mammalian Vestibular System.

The goal of this project is to characterize the innervation pattern of the regenerating mouse utricle.

Role: Mentor

29) American Neurotological Society Aaron (PI) 7/1/18-6/30/19

Title: Modeling and Restoring Hearing and Vestibular Deficit of Non-Syndromic Deafness

The goal of this project is to characterize and rescue TMPRSS3-related cochlear and vestibular dysfunction.

Role: Mentor

30) American Society of Pediatric Otolaryngology Aaron (PI) 7/1/18-6/30/19

Title: Inner ear gene therapy for genetic hearing loss

The goal of this project is to characterize and rescue TMPRSS3-related cochlear and vestibular dysfunction.

Role: Mentor

31) NIH/NIDCD R21 DC015879 Wang (PI) 9/1/2016-8/31/2019

Title: Molecular and morphological characterization of mouse and human hair cell regeneration.

Role: Mentor

32) NIH/NIDCD Supplement to R21DC015879 Wang (PI) 9/1/2018-8/31/2019

Title: Molecular and morphological characterization of mouse and human hair cell regeneration.

Role: Mentor

Teaching

1. Stanford OTOHNS-199 2009-present (independent research studies by undergraduate students)
2. BIO 199X 2011-present (independent research studies by undergraduate students)
3. Human Biology 157 (Stem cells) 2013 (lecture series on stem cell biology)
4. Stanford Intensive Neuroscience boot camp (2013-present) (lecture series for neuroscience graduate students)

5. Temporal dissection course (2011-present)(annual sessions for otolaryngology residents)
6. Stanford Neuroscience graduate program (2013-present)

Current Trainees

Research:

1. Tian Wang, M.D. Ph.D., postdoctoral fellow 2011-2017, life science research scientist 2017-present.
 - 2012 ARO Midwinter meeting travel award
 - 2013 ARO Midwinter meeting travel award
 - 2016 ARO Midwinter meeting travel award
 - Stanford Child Health Research Institute fellowship 2012-14
 - NIH/NIDCD R21 career development grant 12/2016-present
 - NIH/NIDCD R21 career development grant supplement 9/2018-present
2. Grace Kim, 2011-present, Otolaryngology resident since 7/2015.
 - Stanford University Medical Scholar 2012-14
 - HHMI medical student fellowship 2013-14 (co-mentor with Roel Nusse)
 - ARO Midwinter meeting travel award 2015
 - NIDCD/NIH T32 fellowship 2017-19
 - AAOHNS resident research grant 2017-18
 - NIH LRP grant 2017-19
3. Elvis Huarcaya Najarro, Ph.D., postdoctoral fellow 1/2013-2019, instructor 1-2019-present
 - Stanford Child Health Research Institute postdoc fellowship 2014-15
 - NIH/NRSA F32 postdoctoral fellowship 2015-2018
4. Sara Billings, M.S., life science research assistant 1/2013-present.
 - 2nd place Poster award, Department of OHNS Annual research day 2017
5. Patrick Atkinson, Ph.D., postdoctoral fellow 10/2013-10/2018, research associate 10/2018-present.
 - Stanford Child Health Research Institute postdoc fellowship 2015-16
 - Garnett Passe and Rodney Williams Memorial Foundation fellowship 2016-18
6. Mary O'Sullivan, Ph.D. postdoctoral fellow (co-mentor with Tony Ricci) 2015-present
 - awarded Marie Skłodowska-Curie fellowship 2017-2019.
 - ARO Midwinter meeting travel award 2017
7. Wuxing Dong, M.S., Lab manager, 6/2016-present.
8. Yasmin Eltawil, Stanford undergraduate student, 11/2017-present
 - Undergraduate minor grant 2018
 - Undergraduate major grant 2019
9. Ksenia Aaron, M.D. postdoctoral/Neurotology fellow June 2018-present
 - ANS Research Grant 2018-2019
 - ASPO Research Grant 2018-2019

-NIH LRP grant 2019-2021

10. Haiyin Sun, M.D., Visiting scholar, 7/2018-7/2019, postdoctoral fellow 7/2019-present
11. Jessica Fuhrman, MS, life science research scientist 3/2019-present.
12. Ina Lee, Stanford undergraduate student, 2/2019-present.
-Undergraduate minor grant 2019
13. Angela Ling, B.S., research assistant, 9/2019-present.
14. Julia Abitbol, Ph.D., postdoctoral fellow 2/2020-present
Inner ear biology at Woods hole.

Clinical:

1. Patrick Scheffler, M.D. Pediatric Otolaryngology Fellow
Assistant Professor, University of Arizona

spARO mentorship program:

1. Andrew Breglio, M.D., Ph.D. student, Mt. Sinai/NIDCD Intramural program (2017-8)
2. Esra Camci, Ph.D., postdoctoral fellow, University of Washington (2019)

Resident mentee:

Yohan Song, M.D. Otolaryngology resident, postdoctoral fellow.
Jason Qian, M.D. T32 otolaryngology resident, postdoctoral fellow.
Tina Munjal, M.D. T32 otolaryngology resident, postdoctoral fellow.
Yu-jin Lee, M.D. T32 otolaryngology resident, postdoctoral fellow.
Joanne Soo, M.D. T32 otolaryngology resident, postdoctoral fellow.

Past Trainees

Undergraduates:

- 1) Alison Kartush, research assistant 2008-2009.
2010-2014: Tulane Medical School.
7/2014-2019: Resident Physician in Department of Otolaryngology-HNS, Loyola University College of Medicine.
Current: Private practice, Broadview, IL.
- 2) Jared Levin, research assistant, summer 2008, 2009.
2011-2015: Albany Medical College.
2015-2018: Medicine residency, Albany Medical College.
2018-current: Fellowship in Rehab Medicine at New York-Presbyterian Hospital.
- 3) John Kim, research assistant, 2010-2011.
Current: Working in the industry (Direct Flow Medical).
- 4) Eric Liaw, research assistant 2010-2011.
-Undergraduate Academic Life Major grant 2011,

-Goldwater scholarship 2013.
Current: MD/PhD student at UCLA/Caltech.

- 5) Anne Mai, research assistant 2012-2013.
-Undergraduate Academic Life minor grant 2012.
2016-present: Undergraduate South Florida Medical School.
- 6) Kayvon Sotoudeh, postbac student 2012-2013.
2013-2017: Medical student at University of Southern California.
2017-present: USC internal medicine resident
- 7) Angela Xue, undergraduate student 2012-2013.
Current: Undergraduate student at Stanford University.
- 8) Davis Chhoa, research assistant 2014-2015.
Current: Undergraduate student at Stanford University.
- 9) Yangyang Shi, research assistant 6/2013-1/2015 (co-mentor with Tony Ricci).
Current: Medical student at Temple University 2016-present.
- 10) Anand Rajan, research assistant 9/2013-present.
-Undergraduate Academic Life major grant 2014.
Current: Medical student at UCLA School of Medicine.
- 11) Duc-Huy Nguyen, research assistant 2012-2015.
-Undergraduate Academic Life minor grant 2013
Current: Medical Student at American University at Antigua.
- 12) Nicole Pham, B.S., 2012-2016.
-Undergraduate Academic Life minor grant 2012
-Undergraduate Academic Life major grant 2013
-2nd place Poster award, Department of OHNS Annual research day 2015
Current: Clover Health.
- 13) Jessica Shen, research assistant 9/2013-2016.
-Undergraduate Academic Life major grant 2014.
Current: Attending Boston University Medical School 2018-ongoing
- 14) Nina Myers, B.S. research assistant, 9/2013-2016.
-Undergraduate Academic Life major grant 2014
-Undergraduate Bio-X grant 2014
-Poster award, Annual research retreat, Department of Otolaryngology-HNS 2014
Current: Graduate school at San Jose State.
- 15) Juleh Eide, research assistant 10/2014-6/2016.
-Undergraduate Academic Life major grant 2015

-Undergraduate Bio-X grant 2016
Current: Postbac student at NIH intramural program.
-Medical Student, University of Washington 2018-on

- 16) Abhinav Singh, Stanford undergraduate student, 4/2017-12/2017
- 17) Leon Chen, B.S., research assistant, 9/2016-6/2018.
-Medical Student, George Washington University 2018-present
- 18) Evelyn Zhang, Stanford undergraduate student, 11/2017-1/2019.
- 19) Lee Quiruz, postbac student, 6/2016-12/2018.
- 20) Panos Vindris, Stanford undergraduate student, 11/2017-9/2018.
-Undergraduate Bio-X grant 2018.
- 21) Julia Chang, Brown undergraduate student 7/2019-8/2019.
- 22) Randy Lin, B.S., research assistant, 9/2016-11/2019.

High school students:

- 1) Vikas Nookala, research assistant 2010-2012.
Current: Undergraduate student at University of California, San Diego.
- 2) Genevieve Huang, research assistant 2012-present.
-Semifinalist for Siemens competition.
Current: Undergraduate student at Wellesley College.
- 3) Dominique Huang, research assistant 7/2013-8/2013.
- 4) Jiayi Luo, research assistant 7/2014-8/2015.

Medical Students:

- 1) Gary Green, M.D., research student 2007-2009.
Awarded Stanford University Medical Scholar fellowship.
Resident physician in Emergency Medicine at University of California, Los Angeles 2009-2012
Current: Staff at Kaiser Permanente in Oakland.
- 2) Lauren Luk, M.D., research student 2009-2010 (co-mentor with Tony Ricci).
-UCSF Pathway to Discovery fellowship
-2010 ARO Midwinter meeting travel award.
-Resident physician in Department of Otolaryngology-HNS at Oregon Health Science University 2010-2015
-Rhinology fellowship Emory University
Current: Staff at Kaiser Permanente, San Diego, CA.

- 3) Adriana Anavitarte, medical student 2009-2010.
 -Stanford University Medical Scholar fellowship 2009-10.
 -Medscholar research day poster prize 2011.
 -Resident physician in Department of Pediatrics at Lucile Packard Children's Hospital, Stanford University 2012-15.
 Current: Staff at Santa Clara Valley Medical Center.
- 4) Andrew Vu, research assistant 2010-2012 (co-mentor with Tony Ricci).
 Creighton University Medical school 2009-2014
 Resident physician in internal medicine at White Memorial Medical Center, Los Angeles. 2014-17
 Cardiology fellow, California Pacific Medical Center 2017-present
- 5) Pin-Yi Ko, medical student 2011-2012.
 -Stanford University Medical Scholar fellowship 2011-12.
 Current: Pediatric Neurology resident at University of Washington.
- 6) Jacob Kuperstock, medical student 2010-2012.
 -Stanford University Medical Scholar fellowship 2011-12.
 2013-18: Residency in Department of Otolaryngology-HNS, Boston University.
 Current: Instructor in Department of Otolaryngology-HNS, Boston University.
- 7) Paras Minhas, medical student, 2013-2014.
 -Stanford University Medical Scholar 2013-14.
 Current: MSTP student at Stanford.
- 8) Tara Mokhtari, B.S., medical student 6/2016-6/2018
 -Stanford University Medical Scholar 2016
 -Resident physician in Department of Otolaryngology and Laryngology at Mass. Eye and Ear Infirmary, Harvard University 2018-2023
- 9) Adela Perez, B.A., medical student 2/2016-5/2019
 -Stanford University Medical Scholar 2016
 -Anesthesiology resident

Graduate student:

- 1) Wenwen Liu, graduate student 6/2013-5/2014.
 Current: research associate in Shandong University, China.
- 2) Zahra Sayyid, 2008-2020, MSTP student since 9/2015.
 -Undergraduate Academic Life Major grant 2009
 - Undergraduate Academic Life Major grant 2010
 -Bio-X undergraduate research award 2011
 -Firestone award 2012
 -completed Biology Honors thesis
 -Stanford University Medical Scholar 2013
 -ARO travel award 2014

-HHMI medical student fellowship 2014-15
-NIDCD/NIH F30 predoctoral fellowship 2016-2021
-2nd place Poster award, Department of OHNS Annual research day 2016
Current: Otolaryngology residency at Johns Hopkins 2020-2025

Postdoctoral fellows:

- 1) Kavita Chalasani, Ph.D., postdoctoral fellow, 2011-2012.
-Stanford University Dean's fellowship 2011-12.
Current: Working in the Roche.
- 2) Renjie Chai, Ph.D., postdoctoral fellow 2009-2013.
-Stanford University Dean's fellowship 2010
-ARO Midwinter meeting travel award in 2011
-ARO Midwinter meeting travel award in 2012
-Hearing Health Foundation Emerging grants 2012-13
-Poster award, Annual research retreat, Department of Otolaryngology-HNS 2012
Current: Professor at Southeast University, Nanjing, China.
- 3) Garani Nadaraja, M.D., resident physician 2009-2010 (co-mentor with Tony Ricci).
-Awarded American Society of Pediatric Otolaryngology grant, awarded first prize William Potts basic science award 2010.
Current: Assistant Professor in Department of Otolaryngology-HNS, UCSF.
- 4) Dylan Chan, M.D., Ph.D., resident physician 2009-2010 (co-mentor with Stefan Heller and Tony Ricci).
-AAOHNS resident research grant 2010
Current: Assistant Professor in Department of Otolaryngology-HNS, UCSF.
- 5) Dong-Hee Lee, M.D., Ph.D., visiting scholar 2009-2010.
Current: Professor in Catholic University of Korea, Seoul, Korea.
- 6) Jae Yong Byun, M.D. Ph.D., visiting scholar 2010-2011.
Current: Professor in Kyung Hee University, Seoul, Korea.
- 7) Markus Huth, M.D., visitor scholar 2011-2013 (co-mentor with Tony Ricci).
2007-16: Resident physician in Department of Otorhinolaryngology, University of Bern, Switzerland.
2019-present: Staff at Solothurner Hospital, Bern, Switzerland.
- 8) Sarah Verhoeven, M.D., visitor scholar 2012-2013 (co-mentor with Tony Ricci).
2012-2017: Research physician in Department of Otorhinolaryngology, University of Antwerp, Belgium.
2017-present-Surgeon, University of Antwerp.
- 9) Kyu-Hee Han, M.D. visiting scholar 2012-2013.
Current: Staff physician at National Medical Center, Seoul, Korea.

- 10) Qin Wang, M.D. visiting scholar 2014-2015.
Current: Staff physician in Department of Otolaryngology/Head and Neck Surgery, the second Xiangya Hospital, Central South University, Hunan, China.
- 11) David Chang, M.D., Ph.D., resident physician 2011-2015.
-AAOHNS resident research grant 2012
-Pediatric Otolaryngology fellow at Children's Hospital Boston 2015-2016
-Assistant Professor, Department of Otolaryngology-HNS, UC Irvine.
- 12) Mamiko Niwa, Ph.D. postdoctoral fellow (co-mentor with Tony Ricci) 2012-2017.
-Stanford Dean's Fellowship 2013-14
-NIH/NRSA postdoctoral fellowship 2014-2016
- 13) Yaodong Dong, M.D., postdoctoral fellow, 2/2015-2/2018
Current: Associate Professor, Department of Otology, Shengjing Hospital, China Medical University, Shenyang, China.
- 14) Lina Jansson Ph.D., postdoctoral fellow 2012-2019.
-Swedish Research Council fellowship 2013-16
-Selected to attend Inner ear biology at Woodshole 8/2013
Project manager at Bristol Myers, Redwood City, CA.
- 15) Davood Hosseini, M.D. life science research assistant 10/2015-7/2019.
Research assistant at Stanford University, Palo Alto, CA.
Internal Medicine resident July 2020-June 2023, Hackensack University Medical Center, NJ
- 16) Tomokatsu Udagawa, M.D., PhD., postdoctoral fellow 9/2014-7/2019.
-ARO Midwinter meeting travel award 2017
Associate Professor at Jikei University, Tokyo, Japan.
- 17) Taha Jan, M.D. T32 postdoctoral/Neurotology fellow June 2017-present.
-Stanford University Medical Scholar fellowship 2007-11
-HHMI Medical student Fellowship 2010-11
-2011 ARO Midwinter meeting travel award
-ASPO Research Grant 2017-2018
-Resident physician in Department of Otology and Laryngology at Mass. Eye and Ear Infirmary, Harvard University 2012-2017
- Selected to attend Inner ear biology at Woodshole 8/2017
- NIH LRP grant 2017-19
-2nd place Poster award, Department of OHNS Annual research day 2018
Assistant Professor at UCSF, San Francisco, CA. July 2020-present

Clinical fellows (co-mentor with division of pediatric otolaryngology):

- 1) Maithy Truong, M.D., pediatric otolaryngology fellow 2007-8.
Current: Clinical Associate Professor, Department of Otolaryngology-HNS, Stanford University.

- 2) Aaron Lin, M.D., pediatric otolaryngology fellow 2008-9.
Current: Staff physician, Department of Otolaryngology-HNS, Kaiser Permanente, Los Angeles, CA.
- 3) Prashant Malhotra, M.D., pediatric otolaryngology fellow 2009-10.
Current: Assistant Professor, Department of Otolaryngology-HNS, Ohio State University.
- 4) Stephen Hoff, M.D., pediatric otolaryngology fellow 2010-11.
Current: Assistant Professor, Department of Otolaryngology-HNS, Northwestern University.
- 5) Nguyen Pham, M.D., pediatric otolaryngology fellow 2011-2.
Current: Assistant Professor, Department of Otolaryngology-HNS, University of California, Irvine.
- 6) Kevin Huoh, M.D., pediatric otolaryngology fellow 2012-3.
Current: Assistant Professor, Department of Otolaryngology-HNS, University of California, Irvine.
- 7) Josee Paradis, M.D., pediatric otolaryngology fellow 2013-2014.
Current: Assistant Professor, Department of Otolaryngology-HNS, University of Western Ontario, London, Ontario, Canada.
- 8) Christian Hochstim, M.D., pediatric otolaryngology fellow 7/2014-2015.
Assistant Professor, Department of Otolaryngology-HNS at University of Southern California.
- 9) Morgan Bliss, M.D., pediatric otolaryngology fellow 7/2015-2016.
Assistant Professor, Department of Otolaryngology-HNS at University of California, San Diego.
- 10) Christine Fordham, M.D., pediatric otolaryngology fellow 7/2016-2017.
Private practice, New Mexico.
- 11) Kara Davis Meister, M.D. Pediatric Otolaryngology fellow 7/2017-2018.
Assistant Professor, Department of Otolaryngology-HNS, Stanford University.
- 12) Krista Kiyosaki Schoppy, M.D. Pediatric Otolaryngology fellow 7/2018-2019.
Private Practice, Oahu, HI.
- 13) Patrick Scheffler, M.D. Pediatric Otolaryngology fellow 7/2019-2020.
Assistant Professor, Department of Otolaryngology-HNS, University of Arizona.

spARO mentorship program:

1. Andrew Breglio, Ph.D., MD candidate, Mt. Sinai School of Medicine (2017-9)

Grants and awards by trainees

1. Stanford Child Health Research Institute fellowship 2012-14 (Tian Wang, M.D., Ph.D.).
2. Stanford Child Health Research Institute fellowship 2014-15 (Elvis Huarcaya Najarro, Ph.D.).
3. Stanford Child Health Research Institute fellowship 2015-16 (Patrick Atkinson, Ph.D.).

4. Undergraduate Academic Life minor grant 2009 (Zahra Sayyid).
5. Undergraduate Academic Life minor grant 2012 (Nicole Pham).
6. Undergraduate Academic Life minor grant 2012 (Anne Mai).
7. Undergraduate Academic Life minor grant 2013 (Duc-Huy Nguyen).
8. Undergraduate Academic Life minor grant 2018 (Yasmin Eltawil).
9. Undergraduate Academic Life minor grant 2019 (Ina Lee).
10. Undergraduate Academic Life Major grant 2010 (Zahra Sayyid).
11. Undergraduate Academic Life Major grant 2011 (Eric Liaw).
12. Undergraduate Academic Life Major grant 2013 (Nicole Pham).
13. Undergraduate Academic Life Major grant 2014 (Jessica Shen).
14. Undergraduate Academic Life Major grant 2014 (Nina Myers).
15. Undergraduate Academic Life Major grant 2014 (Anand Rajan).
16. Undergraduate Academic Life Major grant 2015 (Juleh Eide).
17. Undergraduate Academic Life Major grant 2019 (Yasmin Eltawil).
18. Bio-X undergraduate research award 2011 (Zahra Sayyid).
19. Bio-X undergraduate research award 2014 (Nina Myers).
20. Bio-X undergraduate research award 2016 (Juleh Eide).
21. Bio-X undergraduate research award 2018 (Panos Vindris).
22. Barry Goldwater scholarship 2013 (Eric Liaw).
23. Stanford University Medical Scholar 2007-9 (Gary Green, B.S.).
24. Stanford University Medical Scholar 2007-12 (Taha Jan, B.S.).
25. Stanford University Medical Scholar 2009-11 (Adriana Anavitarte, B.A.).
26. Stanford University Medical Scholar 2010-12 (Jacob Kuperstock, B.S.).

27. Stanford University Medical Scholar 2011-12 (Pin-Yi Ko, B.S.).
28. Stanford University Medical Scholar 2013-5 (Zahra Sayyid, B.S.).
29. Stanford University Medical Scholar 2012-4 (Grace Kim, B.S.).
30. Stanford University Medical Scholar 2013-4 (Paras Minhas, B.S.).
31. Stanford University Medical Scholar 2016-present (Adela Perez, B.S.).
32. Stanford University Medical Scholar 2016-17 (Tara Mokhtari, B.S.).
33. UCSF Pathway to Discovery fellowship 2009-10 (Lauren Luk, B.S.).
34. Howard Hughes Medical Institute Medical Student research fellowship 2010-11 (Taha Jan, B.S.).
35. Howard Hughes Medical Institute Medical Student research fellowship 2014-15 (Zahra Sayyid, B.S.).
36. Howard Hughes Medical Institute Medical Student research fellowship 2013-14 (Grace Kim, B.S.).
37. American Academy of Otolaryngology-Head and Neck Surgery resident research grant 2009-10 (Dylan Chan, M.D., Ph.D.)
38. American Academy of Otolaryngology-Head and Neck Surgery resident research grant 2012-3 (David Chang, M.D., Ph.D.)
39. American Academy of Otolaryngology-Head and Neck Surgery resident research grant 2017-8 (Grace Kim, M.D.)
40. American Society of Pediatric Otolaryngology research grant 2009-10 (Garani Nadaraja, M.D.)
41. American Society of Pediatric Otolaryngology research grant 2017-18 (Taha Jan, M.D.)
42. American Society of Pediatric Otolaryngology research grant 2018-19 (Ksenia Aaron, M.D.)
43. American Neurotology Society research grant 2018-19 (Ksenia Aaron, M.D.)
44. Swedish Research Council research fellowship 2013-16 (Lina Jansson, Ph.D.).
45. NIH/NRSA F32 postdoctoral fellowship 2014-2016 (Mamiko Niwa, Ph.D.).
46. NIH/NRSA F32 postdoctoral fellowship 2015-2018 (Elvis Huarcaya Najarro, Ph.D.).
47. Hearing Health Foundation Emerging grants 2012-2013 (Renjie Chai, Ph.D.).

48. Stanford Dean's Fellowship 2010 (Renjie Chai, Ph.D.).
49. Stanford Dean's Fellowship 2011 (Kavita Chalasani, Ph.D.).
50. Stanford Dean's Fellowship 2013 (Mamiko Niwa, PhD.).
51. NIH/NIDCD Pediatric Loan repayment program 2017-19 (Grace Kim, M.D.)
52. NIH/NIDCD Pediatric Loan repayment program 2017-19 (Taha Jan, M.D.)
53. NIH/NIDCD Pediatric Loan repayment program 2019-21 (Ksenia Aaron, M.D.)

Awards by trainees

1. The Firestone Medal for Excellence in Undergraduate Research 2012 (Zahra Sayyid).
2. Association of Research in Otolaryngology midwinter meeting medical student travel award 2010 (Lauren Luk, B.S.).
3. Association of Research in Otolaryngology midwinter meeting medical student travel award 2011 (Taha Jan, B.S.).
4. Association of Research in Otolaryngology midwinter meeting postdoctoral fellow travel award 2010 (Renjie Chai, Ph.D.).
5. Association of Research in Otolaryngology midwinter meeting postdoctoral fellow travel award 2011 (Renjie Chai, Ph.D.).
6. Association of Research in Otolaryngology midwinter meeting postdoctoral fellow travel award 2012 (Tian Wang, M.D. Ph.D.).
7. Association of Research in Otolaryngology midwinter meeting postdoctoral fellow travel award 2013 (Tian Wang, M.D. Ph.D.).
8. Association of Research in Otolaryngology midwinter meeting medical student travel award 2014 (Zahra Sayyid, B.S.).
9. Association of Research in Otolaryngology midwinter meeting medical student travel award 2015 (Grace Kim, B.S.).
10. Association of Research in Otolaryngology midwinter meeting postdoctoral fellow travel award 2017 (Mary O'Sullivan, Ph.D.).
11. Association of Research in Otolaryngology midwinter meeting postdoctoral fellow travel award 2017 (Tomokatsu Udagawa, M.D. Ph.D.).
12. Medscholar research day poster prize, Stanford University SOM 2011 (Adriana Anavitarte).

13. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2012 (Renjie Chai, PhD.).
14. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2014 (Nina Myers).
15. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2017 (Sara Billings).
16. ASPO William Potsic basic science award 2010 (Garani Nadaraja, M.D.).
17. Semifinalist for Siemens competition (Genevieve Huang).
18. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2015 (Tian Wang).
19. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2016 (Zahra Sayyid).
20. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2017 (Sara Billings).
21. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2018 (Taha Jan).
22. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2019 (Zahra Sayyid).
23. Poster award, Annual research retreat, Department of Otolaryngology-HNS 2019 (Grace Kim).

Presentations /Lectures (invited)

Regional:

1. *Mechanism of cell death in the mammalian organ of Corti*, Grand Rounds, Department of Otolaryngology and Communication Disorders, Children's Hospital Boston, Harvard Medical School, Boston, MA. (June 2007)
2. *Mechanism of degeneration in the mammalian organ of Corti*, Grand Rounds, Department of Otolaryngology-Head and Neck Surgery, Stanford University School of Medicine, Palo Alto, CA. (Dec 2006)
3. *Management of pediatric airway*, Resident lectures, Department of Otolaryngology and Communication Disorders, Children's Hospital Boston, Harvard Medical School, Boston, MA. (Jan 2007)
4. *Lymphatic malformations*, Resident Lectures, Department of Otolaryngology-Head and Neck Surgery, Stanford School of Medicine, Palo Alto, CA. (Nov 2007)
5. Mitomycin for the airway: is there a difference? Pediatric Otolaryngology update, Palo Alto, CA. (March 2008)
6. Differentiating branchial cleft cysts, Pediatric Otolaryngology update, Palo Alto, CA. (March 2008)
7. *Grantsmanship in Otolaryngology*. Resident Lectures, Department of Otolaryngology-Head and Neck Surgery, Stanford School of Medicine, Palo Alto, CA. (March 2008).

8. Otolaryngologists' Perspectives of Otitis Media in 2008. Pediatric update, San Jose, CA. (October 2008)
9. The Promise of Stem Cell Therapy in Overcoming Deafness. Otology and Neurotology Update, San Francisco, CA. (November 2008)
10. *Practical approach in managing pediatric airway*. Resident education, Stanford, CA. (April 2010)
11. *Management of chronic ear diseases and congenital hearing loss*. Biodesign lecture series, Stanford University SOM. (August 2010)
12. Fluctuating and progressive SNHL in adults and children (case based learning panelist). Otology and Neurotology Update, Palo Alto, CA. (November 2010)
13. How to Keep Ears Healthy into Old Age? Pediatric Otolaryngology Update, Stanford, CA. (February 2011)
14. Nasal obstruction (case based learning). Pediatric Otolaryngology Update, Stanford, CA. (February 2011)
15. How to keep ears healthy into old age? Pediatric Otolaryngology Update, Stanford, CA. (February 2011)
16. How best to care for the child with a unilateral hearing loss (panelist)? Pediatric Otolaryngology Update, Stanford, CA. (February 2011)
17. Complex pediatric otolaryngology problems (panelist). Pediatric Otolaryngology Update, Stanford, CA. (February 2011)
18. Are too many tympanostomy tubes placed in children in the United States (moderator)? Pediatric Otolaryngology Update, Stanford, CA. (February 2011)
19. Say what? is new with hearing loss and ear infection. Pediatric Clinical Update- South Bay, San Jose, CA. (September 2011)
20. Pediatric Otology (case based learning panelist) Otology and Neurotology Update, Palo Alto, CA. (November 2012)
21. Directing regeneration in sensory organs. Regenerative Medicine at Stanford seminar series, Stanford University, Palo Alto, CA. (May 2013)
22. Developing nontoxic aminoglycosides. Department of Urology Research conference, Stanford, CA. (August 2013)
23. Progressive hearing loss in children. Pediatric otolaryngology lecture series, Department of Otolaryngology-HNS, Stanford, CA. (May 2014).
24. Regeneration of inner ear sensory organs. Bio-X undergraduate summer research program, Stanford, CA. (August 2014)

25. Diagnosis and management of congenital hearing loss. Stanford Otology Course, Palo Alto, CA. (November 2014).
26. Pediatric Otology (case based learning panelist) Otology and Neurotology Update, Palo Alto, CA. (November 2014)
27. How to incorporate research into a surgeon's career. Otolaryngology-HNS resident education series, Palo Alto, CA. (March 2015)
28. Designing non-ototoxic antibiotics. Bass Society Annual dinner, Palo Alto, CA. (April 2015)
29. Frontiers in Medical Research and Hearing Loss. Keynote Lecture of OPTION Schools Annual Conference, Sacramento, CA. (April 2015)
30. On the Horizon...Cochlear Implant Technology. OPTION Schools Annual Conference, Sacramento, CA. (April 2015)
31. Congenital Hearing Loss: Workup and Management. Pediatric otolaryngology lecture series, Department of Otolaryngology-HNS, Stanford, CA. (April 2015).
32. An Update on Diagnosis and Management of Congenital Hearing Loss. Primary Care Challenges in Pediatric Otolaryngology: A Case-Based Approach, Monterey, CA. (May 2015)
33. Conductive Hearing loss: The Myriad causes and Treatment Options. Primary Care Challenges in Pediatric Otolaryngology: A Case-Based Approach, Monterey, CA. (May 2015)
34. Ear Cases and Q&A (case based learning panelist) Primary Care Challenges in Pediatric Otolaryngology: A Case-Based Approach, Monterey, CA. (May 2015)
35. Winning grants from CORE, NIH and more. Otolaryngology-HNS resident education series, Palo Alto, CA. (November 2015)
36. Diagnosis and management of congenital hearing loss. Pediatric otolaryngology lecture series, Department of Otolaryngology-HNS, Stanford, CA. (April 2016).
37. Diagnosis and management of congenital hearing loss. Stanford Otology Course, Palo Alto, CA. (November 2016).
38. Pediatric Otology (case based learning panelist) Otology and Neurotology Update, Palo Alto, CA. (November 2016)
39. Grantwriting workshop. Otolaryngology-HNS resident education series, Palo Alto, CA. (December 2016)
40. Introduction to Otolaryngology, Medical student workshop, Stanford, CA. (January 2017)
41. Challenging problems in outpatient otology. Stanford Otolaryngology Grand Rounds, Palo Alto, CA (panelist) (Sept 2017).

42. Controversies in acute otitis media diagnosis and management. Stanford Otolaryngology Grand Rounds, Palo Alto, CA (panelist) (November 2017).
43. Wnt signaling and inner ear regeneration. Special seminar at Surrozen, Inc., South San Francisco, CA (December 2017).
44. Can you hear me now? An update on diagnosis and management of pediatric hearing loss. 26th Annual Pediatric Conference, Stanford, CA (July 2018).
45. Regeneration and Gene Therapy. Stanford Otology Update, Palo Alto, CA. (November 2018).
46. Pediatric Otolaryngology at Stanford, Physician Relations Committee Meeting, Stanford Children's Health, Palo Alto. (May 2019)
47. Designing non-ototoxic antibiotics. Maternal & Child Health Research Institute Seminar Series, Palo Alto. (June 2019)

National:

1. Inner ear stem/progenitor cells-Gone with the Wnt? ARO Midwinter meeting, Anaheim, CA. (February 2010)
2. Modulating proliferation in the postnatal mammalian cochlea. Gerald B. Healy Academic Festschrift, AAOHNS Annual meeting, Boston, MA. (September 2010)
3. Characterization of mammalian cochlear progenitor cells: a model of inner ear regeneration. Grand Rounds, Department of Otolaryngology-HNS, Oregon Health Science University, Portland, OR. (November 2010)
4. Advances in Molecular Diagnostics and Therapeutics in Otology. American Neurotological Society, COSM, Chicago IL. (May 2011)
5. Making sense of Wnt signaling: the tale of two progenitor cell types. St. Jude Brain Club seminar series, St. Jude Children's Research Hospital, Memphis, TN. (June 2012)
6. Making sense of Wnt signaling: the tale of two progenitor cell types. Seminar at NIH/NIDCD, Bethesda, MD. (June 2012)
7. Wnt-responsive hair cell progenitors in the postnatal mammalian cochlea at Seminar at Virginia Bloedel Hearing Research Center, Department of Otolaryngology-HNS, University of Washington, Seattle, WA. (August 2012)
8. Identifying hair cell progenitors in the mammalian cochlea. Grand Rounds in Department of Otorhinolaryngology, University of Maryland, Baltimore, MD. (February 2013)
9. Identifying hair cell progenitors in the mammalian cochlea. Hearing, Balance and Chemical Senses Seminar at Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI. (April 2013)
10. How to mend a broken ear? Stem cell group seminar series, City of Hope, Duarte, CA. (September 2013)

11. Speaker at Physician Grand Rounds at 27th Annual North American Cystic Fibrosis Conference, Salt Lake City, UT. (October 2013)
12. Directing regeneration in the mammalian inner ear, Research Seminar, Division of Otolaryngology-HNS, University of Utah, Salt Lake City, UT. (October 2013)
13. How to mend a broken ear? Ultimate Colorado Meeting, Vail, CO. (February 2014)
14. Directing regeneration in the mammalian inner ear, Bloedel research seminar, Department of Otolaryngology-HNS, University of Washington, Seattle, WA. (July 2014)
15. Wnt signaling enhances the potentials of inner ear progenitors. T32 seminar series, Department of Otolaryngology-HNS, University of Colorado, Denver, CO. (August 2014)
16. Acquired hearing loss. 2nd Annual Resident/Fellow Education Conference, Nemours Children's Hospital, Orlando, FL. (September 2014)
17. Winning Grants from CORE, NIH and more: Strategies and Pitfalls. Instruction course at AAOHNS annual meeting, Orlando, FL. (September 2014)
18. AAO-HNS Core Miniseminar: Building Research into Your Practice. AAOHNS annual meeting, Orlando, FL. (September 2014)
19. Direct transdifferentiation and mitotic regeneration: a balancing act. Molecular Biology of the Inner ear seminar series, Department of Otology and Laryngology, Harvard Medical School (October 2014).
20. Resolving inner ear progenitor-hair cell transition with time-lapse imaging. Ultimate Colorado Meeting, Vail, CO. (February 2015)
21. AAO-HNS Core Miniseminar: Ototoxic or not: Innovations in the Management of Ototoxicity. AAOHNS annual meeting, Dallas, FL. (September 2015)
22. Winning Grants from CORE, NIH and more: Strategies and Pitfalls. Instruction course at AAOHNS annual meeting, Dallas, FL. (September 2015)
23. Regenerative potentials of mammalian cochlear supporting cells: how Tom jumpstarted my career. Thomas Van de Water Festschrift, Triological meeting, Miami, FL. (January 2016)
24. Regenerative potentials of supporting cell subtypes in the neonatal mouse cochlea. Ultimate Colorado Meeting, Vail, CO. (January 2016)
25. Dissecting the roles of Wnt-responsive cells in the inner ear. Symposium: Wnt signaling in development and disease, ARO Midwinter meeting, San Diego, CA. (February 2016)
26. Designing non-ototoxic antibiotics. "Emerging trends in Neurotology" ANS Fall meeting, San Diego, CA. (September 2016)

27. Overview of approaches to study inner ear regeneration. The Mouse as an Instrument for Ear Research VI, Jackson Laboratory, Bar Harbor, ME. (September 2016)
28. Regeneration of the mammalian vestibular system: does function follow form? Knowles Hearing Center symposium at Northwestern University: Hearing restoration, gene therapy, stem cells, regeneration, Evanston, IL. (October 2016)
29. Research, Aminoglycosides, Trevor. Scientific session in honor of Dr. Trevor McGill, Boston, CA. (November 2016)
30. Regeneration of the inner ear: does function follow form? Ultimate Colorado Meeting, Vail, CO. (January 2017)
31. Hearing loss and hair cell regeneration. Regeneration Summit at Decibel Therapeutics, Boston, MA. (May 2017)
32. Mammalian inner ear regeneration: does function follow form? Special seminar, Kirby Neurobiology Center, Boston Children's Hospital, Boston, MA. (July 2017)
33. Form and function during innate and enhanced mammalian hair cell regeneration. T32 Hearing and Communication neuroscience seminar series, University of Southern California, Los Angeles, CA. (March 2018)
34. Form and function during innate and enhanced mammalian hair cell regeneration. NIH/NIDCD seminar series, Bethesda, DC. (April 2018)
35. Directing hair cell regeneration and functional recovery in the mammalian vestibular system. Special Seminar, Decibel, Boston, MA. (July 2018)
36. Regeneration of sensory hair cells in the inner ear balance organs. Identifying treatments for taste and smell disorders conference, The Monell Center, Philadelphia, PA. (November 2018)
37. Form and function during innate and enhanced mammalian hair cell regeneration. Seminar for Inner Ear Research Group and Developmental Biology Interest Group, University of Utah, Salt Lake City, UT. (January 2019).
38. Mammalian hair cell regeneration: a balancing act. Hearing, Balance, and Chemical Senses Seminar at Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI. (April 2019)
39. Vestibular hair cell regeneration: lessons learnt from animals. Vestibular contribution to health and disease, Mt. Sinai University, New York, NY. (October 2019).
40. Development of the Inner Ear-what can we learn from it? Palm Springs Hearing Seminar, Palm Springs, CA. (Dec, 2019)
41. Hair Cell Regeneration: does function follow form? Palm Springs Hearing Seminar, Palm Springs, CA. (Dec, 2019)

International:

1. Current opinions in hearing loss in children: diagnostic and management dilemmas (panelist). The 28th Politzer Society Meeting, Athens, Greece. (September 2011)
2. Fluctuating and progressive SNHL in adults and children (panelist). The 28th Politzer Society Meeting, Athens, Greece. (September 2011)
3. Rebuilding the inner ear through cell-base therapy (Keynote lecture). The 28th Politzer Society Meeting, Athens, Greece. (September 2011)
4. Update on Stem cell Research. 3rd South Pacific ORL Forum, Maui, HI. (July 2013)
5. Investigation of Progressive Hearing Loss. 3rd South Pacific ORL Forum, Maui, HI. (July 2013)
6. Interesting Middle ear presentations (panelist). 3rd South Pacific ORL Forum, Maui, HI. (July 2013)
7. Pediatric otolaryngology (panelist), Korean American Satellite Symposium, Vancouver, Canada. (September 2013)
8. Congenital and progressive hearing loss in the pediatric population, 48th annual meeting of Korean Otological Society, Seoul, South Korea. (March 2014).
9. An alternative approach to decrease aminoglycoside ototoxicity, 48th annual meeting of Korean Otological Society, Seoul, South Korea. (March 2014).
10. Current concept of stem cell biology and its application to inner ear disorders, 48th annual meeting of Korean Otological Society, Seoul, South Korea. (March 2014).
11. Mammalian hair cell regeneration: does function follow form? 2nd Hearing Science Conference, from hair cell to cerebral cortex, Jinan, Shandong, China. (Keynote speaker) (October 2016)
12. Molecular diagnosis and treatment of congenital hearing loss. 6th Asian Paediatric Otorhinolaryngology Conference, Beijing, China. (July 2017)
13. Round Table: LVAS (panelist). 6th Asian Paediatric Otorhinolaryngology Conference, Beijing, China. (July 2017)
14. Modulation of mammalian hair cell regeneration. 3rd Hearing Science Conference, from hair cell to cerebral cortex, Nanjing, China. (Keynote speaker) (October 2017)
15. Protecting and Regenerating Inner Ear Sensory Cells, Special seminar, Taipei Veterans General Hospital, Taipei, Taiwan. (August 2018)
16. Mammalian hair cell regeneration: does function follow form? Special seminar, Shanghai Jiatong University School of Medicine, Shanghai, China. (March 2019).
17. Molecular diagnosis and emerging treatment of congenital hearing loss. Temporal dissection course, Shanghai Jiatong University School of Medicine, Shanghai, China. (March 2019).

18. Atoh1 directs regeneration and functional recovery of the mature mouse utricle, Special seminar, Taipei Veterans General Hospital, Taipei, Taiwan. (July 2019)
19. Atoh1 directs regeneration and functional recovery of the mature mouse vestibular system, 5th Hearing Science Conference, from hair cell to cerebral cortex, Beijing, China. (Sept 2019)
20. Congenital hearing loss: role of molecular diagnosis and CMV, XLI Curso International SMORLCCC, Mexico City, Mexico. (February 2020)
21. What is new in pediatric cochlear implants, XLI Curso International SMORLCCC, Mexico City, Mexico. (February 2020)

Moderated panels:

1. Regeneration session, ARO Midwinter meeting, Baltimore, MD. (Feb 2013)
2. Regeneration session, ARO Midwinter meeting, Baltimore, MD. (Feb 2015)
3. Otology/audiology session, ASPO, COSM, Boston, MA. (April 2015)
4. Pediatric Otolaryngology scientific oral presentations, AAOHNS annual meeting, Orlando, FL. (September 2015)
5. Symposium: Wnt signaling in development and disease, ARO Midwinter meeting, San Diego, CA. (Feb 2016)
6. Opening ceremony, 6th Asian Paediatric Otorhinolaryngology Conference, Beijing, China. (July 2017)
7. Pediatric Otology (case based learning panelist) Otology and Neurotology Update, Palo Alto, CA. (November 2018)
8. Pediatric Otology (panelist). Pre-Academy ASPO Symposium, New Orleans, LA. (September 2019)
9. Multidisciplinary Management of Pediatric Airway (panelist). XLI Curso International SMORLCCC, Mexico City, Mexico. (February 2020)

Presentations /Lectures (contributed)

1. **Cheng AG**, Patel MD, Callen PW (1995) Lateral ventricular effacement as an isolated sonographic finding in premature infants: Prevalence and significance. American Roentgen Ray Society annual meeting, Washington, DC.
2. Huang T, **Cheng AG**, Liu W, Van De Water TR (1999) *Inhibition of calpains protects auditory neurons from neurotrophin-withdrawal induced apoptosis*. ARO Midwinter meeting, St. Petersburg, FL.
3. **Cheng AG**, Huang T, Liu W, Van De Water TR (1999) *Dynamics of caspase inhibitor protection from cisplatin and neurotrophin-withdrawal induced apoptosis of auditory sensory cells*. ARO Midwinter meeting, St. Petersburg, FL.

4. Rubel EW, Cunningham LL, **Cheng AG**, Harris JA, Raible DW (2001) *Challenges to cellular recovery*. Symposium for Noise Induced Hearing Loss, Seattle, WA.
5. Harris JA, **Cheng AG**, Cunningham LL, Raible DW, Rubel EW (2001) *Neomycin-induced hair cell death in the lateral line system: a model to study hair cell survival*. West Coast Regional Zebrafish meeting, Seattle, WA.
6. **Cheng AG**, Shang J, Rubel EW (2001) *Hair cell death in vitro in the avian BP: characterization of the model and caspase inhibition*. ARO Midwinter meeting, St. Petersburg, FL.
7. **Cheng AG**, Cunningham LL, Rubel EW (2002) *Translocation of cytochrome c in hair cells of gentamicin-treated avian basilar papilla*. ARO Midwinter meeting, St. Petersburg, FL.
8. Cunningham LL, **Cheng AG**, Rubel EW (2002) *Caspase activation in adult mouse utricles exposed to neomycin*. ARO Midwinter meeting, St. Petersburg, FL.
9. Harris JA, **Cheng AG**, Cunningham LL, Raible DW, Rubel EW. *Neomycin-induced hair cell death in the lateral line of zebrafish: a preparation for studying the genetics of hair cell survival*. (2002) ARO Midwinter meeting, St. Petersburg, FL.
10. Rubel EW, Cunningham LL, **Cheng AG** (2002) *Apoptosis and its relevance to SNHL*. Annual AAO-HNSF Cherry Blossom Conference, Arlington, VA.
11. **Cheng AG**, Cunningham LL, Rubel EW (2002) *Caspase activation in gentamicin-induced hair cell death in vitro*. AAO-HNSF Annual Meeting, San Diego, CA.
12. Cunningham LL, Harris JA, **Cheng AG**, Bauer EE, Raible DW, Rubel EW (2003) *Identification of genes that influence susceptibility of zebrafish lateral line hair cells to neomycin-induced death*. ARO Midwinter meeting, Daytona Beach, FL.
13. **Cheng AG**, Chang A, Farwell DG, Agoff SN (Sept 2004) *Auramine O stain with fluorescence microscopy is a rapid and sensitive technique for the detection of cervical lymphadenitis due to mycobacterial infection using fine needle aspiration cytology: a case series*. AAO-HNSF Annual Meeting, New York, NY.
14. **Cheng AG**, Morrison RA, Rubel EW (Feb 2005) *p53 mediates cisplatin-induced hair cell death in vitro*, ARO Midwinter meeting, New Orleans, LA.
15. **Cheng AG**, Luz J, Johnston PR, Uluer A, Licameli GR, Kenna MA, Jones DT (Sept 2007) *Hearing loss in patients with cystic fibrosis*, AAO-HNSF Annual Meeting, Washington, DC.
16. C. Corrales E, Oshima K, Diensthuber M, Jan T, **Cheng AG**, Heller S (Feb 2009). *Sphere-forming cells derived from Supporting cells of the Chick Utricle*. ARO Midwinter meeting, Baltimore, MD.
17. Volkenstein S, Oshima K, Jan T, **Cheng AG**, Heller S (June 2009) *A transient postnatal niche for neural progenitors in the cochlear nucleus*. Molecular Biology of Hearing and Deafness, Boston, MA.

18. Jan T, Kartush A, Sayyid S, Nusse N, Heller S, **Cheng AG** (June 2009) *The role of canonical wnt signaling in maintaining the mouse inner ear stem cells*. Molecular Biology of Hearing and Deafness, Boston, MA.
19. Naeem TA, Alharazenah A, Luk L, **Cheng AG**, Ricci AJ (August 2009) *Route of Aminoglycoside entry into inner ear hair cells*. Amgen Scholarship Program, Stanford University, Palo Alto, CA.
20. Alharazenah A, Luk L, **Cheng AG**, Ricci AJ (February 2010) *Aminoglycoside Ototoxicity ameliorated with mechanotransducer channel blockers*. ARO Midwinter meeting, Anaheim, CA
21. Luk L, Alharazenah A, Naeem T, Monfared A, Steyger P, **Cheng AG**, Ricci AJ (February 2010) *Aminoglycoside rapidly and selectively enter hair cells, largely via mechanotransduction channels*. ARO Midwinter meeting, Anaheim, CA
22. Nadaraja N, Luk L, Alharazenah A, Ricci A, **Cheng AG** (May 2010) *Gentamicin entry into sensory hair cell is dependent on mechanotransduction channels and tip-link integrity*. ASPO meeting, Las Vegas, CA.
23. Jan T, Chai R, Sayyid Z, Sinkkonen S, Xia A, Levin J, Zeng Y, Heller S, Nusse N, **Cheng AG** (June 2010) *Tympanic border cells are Wnt-responsive and act as progenitor cells in the postnatal mammalian cochlea*. ICCSR, San Francisco, CA.
24. Chan D, Sinkkonen S, **Cheng AG**, Heller S (September 2010) *Inner ear stem cell transplantation in cochlear cultures*. AAOHNS Annual meeting, Boston, MA.
25. Chai R, Xia A, Jan T, **Cheng AG** (September 2010) *Lgr5, a Wnt target, is expressed in the developing and postnatal mouse cochlea*. The Mouse as Instrument for Ear Research IV Meeting, Bar Harbor, ME.
26. Lee D, Jan T, Chai R, Xia A, **Cheng AG** (December 2010) *Wnt activation promotes proliferation in the postnatal mouse cochlea in vitro*. Termis NA meeting, Orlando, FL.
27. Jan T, Chai R, Sayyid Z, Xia A, Sinkkonen S, Wang T, Levin J, Zheng Y, Heller S, Nusse R, **Cheng AG** (February 2011) *Axin2-positive cells are Wnt-responsive and act as progenitor cells in the postnatal mammalian cochlea*. ARO Midwinter meeting, Baltimore MD.
28. Chai R, Xia A, Wang T, Jan T, Hayashi T, Bermingham-McDonogh O, **Cheng AG** (February 2011) *Lgr5, a Wnt target, is expressed in the developing and postnatal mouse cochlea*. ARO Midwinter meeting, Baltimore MD.
29. Huth M, Alharazneh A, Luk L, Ricci A, **Cheng AG** (Sept 2011) *Gentamicin Ototoxicity Requires Hair cell Functional Mechanotransducer Channels*. AAOHNS Annual meeting, San Francisco, CA.
30. Chai R, Kuo B, Wang T, Xia A, Liaw E, Jan TA, Nusse R, Zuo J, **Cheng AG** (Feb 2012) *Wnt signaling regulates cell fate of Lgr5+ve hair cell precursors in the postnatal mouse cochlea*. ARO Midwinter meeting, San Diego, CA.
31. Vu A, Huth M, Nadaraja G, Kim J, Luk L, Chai R, Ricci A, **Cheng AG** (Feb 2012) *Hair cell tiplink proteins mediate aminoglycoside entry and toxicity*. ARO Midwinter meeting, San Diego, CA.

32. Wang T, Chai R, Liaw E, Xia A, **Cheng AG** (Feb 2012) *Characterization of Wnt signaling in the postnatal mouse utricles*. ARO Midwinter meeting, San Diego, CA.
33. Kuo B, Chai R, Liu Z, Xia A, Taketo MM, **Cheng AG**, Zuo J (Feb 2012) *Lgr5+ve supporting cells form replication foci in response to Wnt/ β -catenin overexpression in the postnatal mouse cochlea in vivo*. ARO Midwinter meeting, San Diego, CA.
34. Huth ME, Vu A, **Cheng AG**, Ricci A (October 2012) *Variability of Gentamicin Ototoxicity but not Antimicrobicity in-vitro*. Inner ear biology, Tubingen, Germany.
35. Volkenstein S, Sinkkonen S, Jan T, Most S, **Cheng AG**, Dazert S, Heller S (October 2012) *A transient, afferent-input dependent postnatal niche for neural progenitors in the cochlear nucleus*. Inner ear biology, Tubingen, Germany.
36. Wang T, Chai R, Pham XP, May L, Nookala V, Huang G, Cunningham L, **Cheng AG** (Feb 2013) *Wnt-responsive cells contribute to hair cell regeneration in the damaged mouse utricle*. ARO Midwinter meeting, Baltimore, MD.
37. Chai R, Tong L, Cox BC, Chalasani K, Wang T, Xue A, Nookala V, Huang G, Pham XP, Zuo J, Rubel EW, **Cheng AG** (Feb 2013) *Lineage tracing reveals supporting cells contributing to hair cell regeneration in the neonatal mouse cochlea in vivo*. ARO Midwinter meeting, Baltimore, MD.
38. Ko PY, Han KH, Chai R, Chalsani K, **Cheng AG** (June 2013) *Generation and Regeneration of hair cells in the postnatal mouse organ of Corti*. Molecular Biology of Hearing and Deafness meeting, Stanford, CA.
39. Huth M, Han KH, Soutadeh K, Verhoeven S, Vu AA, Greenhouse R, **Cheng AG**, Ricci AJ (Feb 2014) *Targeted modifications to aminoglycoside structure reduce ototoxic side-effects*. ARO Midwinter meeting, San Diego, CA.
40. Sayyid ZS, Wang T, Jones SJ, **Cheng AG** (Feb 2014) *Characterization of an in vivo model of vestibular hair cell degeneration/regeneration*. ARO Midwinter meeting, San Diego, CA.
41. Chang DT, Chai R, DiMarco R, Heishorn SC, **Cheng AG** (May 2014) *Protein-engineered Hydrogel Encapsulation for 3D Culture of Murine Cochlea*. COSM, Las Vegas, NV.
42. Myers N, Billings SE, Najjarro EH, **Cheng AG** (August 2014) *beta-catenin stabilization promotes proliferation, migration, and fate change of cochlear axin2+ cells*. Bio-X symposium, Stanford, CA.
43. Shen JW, Jansson LB, **Cheng AG** (October 2014) *Wnt/beta-catenin is required for cochlear development*. Symposia of Undergraduate Research and Public Service, Stanford, CA.
44. Myers N, Billings SE, Najjarro EH, **Cheng AG** (October 2014) *beta-catenin stabilization promotes proliferation, migration, and fate change of cochlear axin2+ cells*. Symposia of Undergraduate Research and Public Service, Stanford, CA.
45. Jansson LB, Chai R, Shen JW, Najjarro EH, Nguyen DH, **Cheng AG** (February 2015) *Lgr6 is a novel marker of developing inner pillar cells*. ARO Midwinter meeting, Baltimore, MD.

46. Kim GS, Chai R, Wang T, Pham N, Nguyen DH, **Cheng AG** (February 2015) Modulation of Wnt/ β -catenin signaling enhances mitotic hair cell regeneration from damage-recruited Lgr5+ cells. ARO Midwinter meeting, Baltimore, MD.
47. Chai R, Wang T, Kim GS, Pham N, Nguyen DH, **Cheng AG** (February 2015) *In vivo* hair cell ablation recruits Wnt-responsive Lgr5+ progenitor cells to mitotically regenerate hair cells in neonatal mouse utricle. ARO Midwinter meeting, Baltimore, MD.
48. Wang T, Pham N, Jansson LB, Luo J, May L, Cunningham LL, **Cheng AG** (February 2015) Time-lapse imaging of spontaneous and Notch-inhibited supporting cell-hair cell transition in mouse utricle. ARO Midwinter meeting, Baltimore, MD.
49. **Cheng AG**, Wang T, Chai R, Kim G, Pham N (September 2015) Wnt-responsive cells mitotically regenerate hair cells in the neonatal mouse utricle. Inner ear biology workshop, Rome, Italy.
50. Atkinson P, Eide J, **Cheng AG** (February 2016) The Mature Cochlea Does Not Proliferate or Regenerate in Response to Wnt/Beta-Catenin Activation. ARO Midwinter meeting, San Diego, CA.
51. Sayyid, Z, Wang T, Jones S, **Cheng AG** (February 2016) Long-term Analysis of the Function and Composition of the Damaged, Adult Mouse Utricle. ARO Midwinter meeting, San Diego, CA.
52. Wang T, Pham N, Luo J, May L, Cunningham L, **Cheng AG** (February 2016) Molecular and morphologic phenotypes during supporting cell-hair cell transition in the regenerating mouse utricle. ARO Midwinter meeting, San Diego, CA.
53. Billings S, Myers N, Huarcaya Najarro E, **Cheng AG** (February 2016) Manipulation of Wnt/Beta-Catenin Pathway in the Embryonic Periotic Mesenchyme. ARO Midwinter meeting, San Diego, CA.
54. Jansson L, Shen J, Muktari T, Huh SH, **Cheng AG** (February 2017) Abrogation of beta-catenin signaling during cochlear development results in differentiation defects in supporting cells and supernumerary Inner Hair cells. ARO Midwinter meeting, Baltimore, MD.
55. Atkinson P, Dong Y, Liu WW, Dong S, Huarcaya Najarro E, **Cheng AG** (February 2017) Modulating mitotic regeneration via activation of the Wnt/beta-catenin Pathway. ARO Midwinter meeting, Baltimore, MD.
56. Udagawa T, Atkinson P, **Cheng AG** (February 2017) Proliferative Regeneration After Ablation of Lgr5-positive Cochlear Supporting Cells. ARO Midwinter meeting, Baltimore, MD.
57. O'Sullivan M, DeMirici H, Huth M, Vu A, Perez A, Effertz T, Greenhouse R, Cheng AG, Ricci AJ (February 2017) Structure Activity Relationships Between Novel Non-ototoxic Aminoglycosides and the Bacterial Ribosome. ARO Midwinter meeting, Baltimore, MD.
58. Sayyid Z, Wang T, Jones S, **Cheng AG** (February 2017) Functional Recovery of the Damaged Adult Mouse Utricle and Characterization of Regenerated Hair Cells. ARO Midwinter meeting, Baltimore, MD.
59. Huarcaya Najarro E, Huang J, Grillet N, **Cheng AG** (February 2017) Disruption of the Wnt Secretory Pathway via Wls Ablation in the Developing Murine Cochlea. ARO Midwinter meeting, Baltimore, MD.

60. Xia A, Udagawa T, Raphael P, **Cheng AG**, Steele C, Applegate B, Oghalai JS (June 2017) Basilar membrane vibration after targeted removal of the third row of OHCs and Deiters cells. Mechanics of Hearing, Ontario, Canada.
61. Wang T, Niwa M, Sayyid Z, Hosseini D, Pham N, Jones S, Ricci AJ, **Cheng AG** (Feb 2018) Discordant maturation of regenerated mammalian vestibular hair cells. ARO Midwinter meeting, San Diego, CA.
62. Atkinson P, Dong Y, Gu S, Liu W, Udagawa T, **Cheng AG**. (Feb 2018) Sox2 haploinsufficiency primes regeneration in the neonatal mouse cochlea. ARO Midwinter meeting, San Diego, CA.
63. Sayyid ZN, Wang T, Chen L, Jones S, **Cheng AG** (Feb 2018) Regeneration and functional recovery of the adult mammalian utricle. ARO Midwinter meeting, San Diego, CA.
64. Udagawa T, Atkinson PJ, **Cheng AG**. (Feb 2018) Proliferative regeneration after ablation of Lgr5-positive cochlear supporting cells. ARO Midwinter meeting, San Diego, CA.
65. Hosseini DK, Wang T, Sayyid ZN, **Cheng AG**. (Feb 2018) Behavioral and cell fate change after selective hair cell ablation in the adult mouse utricle. ARO Midwinter meeting, San Diego, CA.
66. Mokhtari T, Boldt B, Sayyid ZN, Kiyosaki K, Yeom KW, **Cheng AG**. (April 2018) Radiographic evaluation of the inner ear and brain in the workup of pediatric hearing loss. American Society of Pediatric Otolaryngology COSM meeting, Washington, DC.
67. O'Sullivan, ME, Perez A, Lin R, Greenhouse R, **Cheng AG**, Ricci AJ. (Feb 2019) Hospital Gentamicin – Ototoxic and antimicrobial assessment of ten individual components. ARO Midwinter meeting, Baltimore, MD.
68. Lin R, O'Sullivan, ME, Perez A, Greenhouse R, **Cheng AG**, Ricci AJ. (Feb 2019) Exploring Parameters of a Cell Growth Inhibition Assay to Prove the Intracellular Penetration of Novel Aminoglycosides in Gram-Negative Bacteria. ARO Midwinter meeting, Baltimore, MD.
69. Song Y, O'Sullivan, ME, Greenhouse R, **Cheng AG**, Ricci AJ. (Feb 2019) Gentamicin subtype permeation of the hair cell mechanotransducer channel. ARO Midwinter meeting, Baltimore, MD.
70. Wang T, Hosseini DK, Kim GS, Billings SE, Sayyid ZN, Vaisbuch Y, Jackler RK, Lopez IA, **Cheng AG**. (Feb 2019) Inner Ear Vestibular Organs of Vestibular Schwannoma Patients Reveal Features of Sensory Cell Precursors. ARO Midwinter meeting, Baltimore, MD.
71. Hirai, T, Mayer, AT, Nobashi T, Xiao Z, Udagawa T, Seo K, Simonetta F, Baker J, **Cheng AG**, Gambhir SS, Negrin RS. (Nov 2019) Imaging OX40 Alloreactive T Cells Provides Early Warning of Organ Transplant Rejection. American Transplantation Congress.
72. Huarcaya Najarro N, Huang J, Jacobo, A, Quiruz, L, Grillet N, **Cheng AG**. Dual regulation of planar polarization by Wnt-dependent and -independent pathways in the developing mouse cochlea. (Feb 2020) ARO Midwinter meeting, San Jose, CA.
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