CURRICULUM VITAE

The Johns Hopkins University School of Medicine

(Signature) _____ April 8, 2021
(Typed Name) Elisabeth Glowatzki, Dr. rer. nat.

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

The Johns Hopkins University School of Medicine
Professor, Department of Otolaryngology Head and Neck Surgery
Professor, Department of Neuroscience (secondary appointment)

Associate Vice Chair of Research in Otolaryngology Head and Neck Surgery
The George T. Nager M.D. Professor

Personal Data

The Johns Hopkins University School of Medicine
Department of Otolaryngology Head and Neck Surgery
The Center for Hearing and Balance
720 Rutland Ave/ 824 Ross
Baltimore, MD 21205
Phone: 410-387-6857
Email:eglowat1@jhmi.edu

Education and Training (in chronological order)

1980-1987	Diploma	Department of Zoology Georg-August-University Goettingen, Germany	Biology
1989-1993	Dr. rerum naturalium (equals Ph.D.)	Department of Zoology University of Kaiserslautern Kaiserslautern, Germany	Neuroscience
1993-1996	Postdoctoral Fellow	Dept. of Otolaryngology Eberhard-Karls-University Tuebingen, Germany	Neuroscience, Hearing
1998-2000	Postdoctoral Fellow	Dept. of Otolaryngology- Head and Neck Surgery The Johns Hopkins School of Medicine Baltimore, MD	Neuroscience, Hearing

Professional Experience (in chronological order)

1996-1998	wissenschaftlicher Assistent (equals Research Associate)	Department of Physiology II School of Medicine, Eberhard-Karls-University Tuebingen, Germany
3-8/98	Visiting Researcher	School of Biological Sciences University of Sussex, Brighton, UK

2000-2002	Research Associate	Department of Otolaryngology Head and Neck Surgery The Johns Hopkins School of Medicine, Baltimore, MD
2002-2007	Assistant Professor	Department of Otolaryngology Head and Neck Surgery The Johns Hopkins School of Medicine, Baltimore, MD
2007-present	Secondary appointment	Department of Neuroscience The Johns Hopkins School of Medicine, Baltimore, MD
2008- present	Associate Professor	Department of Otolaryngology Head and Neck Surgery and Neuroscience, The Johns Hopkins School of Medicine, Baltimore, MD
2015- present	Professor	Department of Otolaryngology Head and Neck Surgery and Neuroscience, The Johns Hopkins School of Medicine, Baltimore, MD
2020-present	Associate Vice Chair of Research	Department of Otolaryngology Head and Neck Surgery, The Johns Hopkins School of Medicine, Baltimore, MD

RESEARCH ACTIVITIES

Publications: Peer-reviewed Original Science Research

1. Fakler B, Brändle U, **Glowatzki E**, Zenner H -P, Ruppersberg JP, Kir 2.1 inward rectifier K^+ channels are regulated independently by protein kinases and ATP hydrolysis. Neuron 1994; 13:1413-1420.
2. Fakler B, Brändle U, Bond C, **Glowatzki E**, Konig C, Adelman JP, Zenner HP, Ruppersberg JP, A structural determinant of differential sensitivity of cloned inward rectifier K^+ channels to intracellular spermine. FEBS Letters 1994; 356(2-3):199-203.
3. Fakler B, Brändle U, **Glowatzki E**, Weidemann S, Zenner H-P, Ruppersberg JP, Strong voltage-dependent inward rectification of inward rectifier K^+ channels is caused by intracellular spermine. Cell 1995; 80:149-154.
4. **Glowatzki E**, Fakler G, Brändle U, Rexhausen U, Zenner H-P, Ruppersberg JP, Fakler B, Subunit-dependent assembly of inward rectifier K^+ channels. Proc R Soc Lond B 1995; 261: 151-152.
5. **Glowatzki E**, Wild K, Brändle U, Fakler G, Fakler B, Zenner H-P, Ruppersberg JP, Cell-specific expression of the a9 n-ACh receptor subunit in auditory hair cells revealed by single-cell RT-PCR. Proc R Soc Lond B 1995; 262: 141-147.
6. Brändle U, Spielmanns P, Osteroth R, Sim J, Surprenant A, Buell G, Ruppersberg JP, Plinkert PK, Zenner H-P, **Glowatzki E**, Desensitization of the P2X2 receptor controlled by alternative splicing. FEBS Letters 1997; 404: 294-298.
7. **Glowatzki E**, Ruppersberg JP, Zenner H-P, Rüsch A. Mechanically and ATP-induced currents of mouse outer hair cells are independent and differently blocked by d-tubocurarine. Neuropharmacology 1997; 36(9): 1269-1275.
8. **Glowatzki E**, Fuchs PA. Cholinergic synaptic inhibition of inner hair cells in the neonatal mammalian cochlea. Science 2000; 288: 2366-2368.
9. Paukert M, Osteroth R, Geisler H-S, Braendle U, **Glowatzki E**, Ruppersberg JP, Gruender S. Inflammatory mediators potentiate ATP-gated channels through the P2X3 subunit. J Biol Chem. 2001; 276(24): 21077-21082.
10. **Glowatzki E**, Fuchs PA. Transmitter release at the hair cell ribbon synapse. Nature Neuroscience 2002; (5)2:147-154.
11. Lioudyno MI, Verbitsky M, **Glowatzki E**, Holt JC, Boulter J, Zadina JE, Elgoyhen AB, Guth PS. The a9/a10-containing nicotinic ACh receptor is directly modulated by opioid peptides, endomorphin-1 and dynorphin B, proposed efferent co-transmitters in the inner ear. Molecular and Cellular Neuroscience 2002; 20:695-711.
12. Gomez-Casati ME, Katz E, **Glowatzki E**, Lioudyno MI, Fuchs PA, Elgoyhen AB. Linopirdine blocks a9a10-containing nicotinic cholinergic receptors of cochlear hair cells. Journal Association for Research in Otolaryngology 2004; 5(3):261-269. PMCID: PMC2504548.

13. Katz E, Elgoyhen AB, Gómez-Casati ME, Knipper M,Vetter DE, Fuchs PA, **Glowatzki E.** Developmental regulation of nicotinic synapses on cochlear inner hair cells. Journal Neuroscience 2004; 24(36):7814-7820.
14. Xu S, Wang Y, Zhao H, Zhang L, Xiong WH, Yau KW, Hiel H, **Glowatzki E**, Ryugo D, Valle D. PHR_1, a PH domain-containing protein, expressed in primary sensory neurons. Molecular and Cellular Biology 2004; 24(20): 9137-9151. PMCID: PMC517893.
15. Pyott S, **Glowatzki E**, Trimmer J, Aldrich R. Extrasynaptic localization of inactivating BK channels in mouse inner hair cells. Journal Neuroscience 2004; 24(43):9469-9474.
16. Lioudyno M, Hiel H, Kong JH, Katz E, Waldman E, Parameshwaran-Iyer S, **Glowatzki E**, Fuchs PA. A "synaptoplasmic cistern" mediates rapid inhibition of cochlear hair cells. Journal Neuroscience 2004; 24(49):11160-11164.
17. Goutman JD, Fuchs PA, **Glowatzki E.** Facilitating efferent inhibition of inner hair cells in the cochlea of the neonatal rat. Journal of Physiology 2005; 566.1:49-59. PMCID: PMC1464729
18. **Glowatzki E,** Chen N, Hiel H, Jin L, Yi E, Tanaka K, Ellis-Davies JCR, Rothstein JD, Bergles DE. The glutamate-aspartate transporter (GLAST) mediates glutamate uptake at inner hair cell afferent synapses in the mammalian cochlea. Journal of Neuroscience 2006; 26(29):7659-7664.
19. Akil O, Chang J, Hiel H, Kong JH, Yi E, **Glowatzki E**, Lustig LR. Progressive deafness and alterered cochlear innervation in knock-out mice lacing prosaposin. Journal of Neuroscience 2006;26(50):13076-13088.
20. Goutman JD, **Glowatzki E**, Time course and calcium dependence of transmitter release at a single ribbon synapse. PNAS 2007; 104 (41):16341-16346. PMCID: PMC2042208.
21. Tritsch NX, Yi E, Gale JE, **Glowatzki E**, Bergles DE. The origin of spontaneous activity in the developing auditory system. Nature 2007, 450:50-55.
22. Seal, RP, Akil O, Yi E, Weber CM, Grant L, Yoo J, Clause A, Kandler K, Noebels JL, **Glowatzki E**, Lustig LR, Edwards RH. Sensorineural deafness and seizures in mice lacking vesicular glutamate transporter 3. Neuron 2008, 57(2):263-75. PMCID: PMC2293283.
23. Martinez-Monedero R, Yi E, Oshima K, **Glowatzki E**, Edge ASB. Differentiation of inner ear stem cells to functional sensory neurons. Developmental Biology 2008; 68(5):669-84.
24. McLean WJ, Smith KA, **Glowatzki E**, Pyott SJ. Distribution of the Na,K-ATPase alpha Subunit in the Rat Spiral Ganglion and Organ of Corti. J Assoc Res Otolaryngol 2009; 10 (1):37-49. PMCID: PMC2644389.
25. Weisz C, **Glowatzki E**, Fuchs P. The postsynaptic function of type II cochlear afferents. Nature 2009; 461(7267):1126-9. PMCID: PMC2785502.
26. Grant L, Yi E, **Glowatzki E**. Two modes of release shape the postsynaptic response at the inner hair cell ribbon synapse. Journal of Neuroscience 2010; 30(12):4210-4220. PMCID: PMC2860956.
27. Yi E, Roux I, **Glowatzki E**. Dendritic HCN channels shape excitatory postsynaptic potentials at the inner hair cell afferent synapse in the mammalian cochlea. Journal of Neurophysiology 2010; 103(5):2532-43. PMCID: PMC2867566.
28. Goutman JD, **Glowatzki E**. Short-term facilitation modulates size and timing of the synaptic response at the inner hair cell ribbon synapse. Journal of Neuroscience 2011; 31(22):7974-81. PMCID: PMC3125715.
29. Roux I, Wersinger E, McIntosh JM, Fuchs PA, **Glowatzki E**. Onset of cholinergic efferent synaptic function in sensory hair cells of the rat cochlea. Journal of Neuroscience 2011; 31(42):15092-101. PMCID: PMC3213862.
30. Weisz CJC, Lehar M, Hiel H, **Glowatzki E**, Fuchs PA. Synaptic Transfer from Outer Hair Cells to Type II Afferent Fibers in the Rat Cochlea. Journal of Neuroscience 2012; 32(28):9528-9536. PMCID: PMC 3433252.
31. Korrapati S, Roux I, **Glowatzki E**, Doetzlhofer A. Notch signaling limits supporting cell plasticity in the hair cell-damaged early postnatal murine cochlea. PLoS One 2013; 8(8):e73276. PMCID:PMC3758270.
32. Weisz CJC, **Glowatzki, E**, Fuchs, P. Excitability of Type II Cochlear Afferents. Journal of Neuroscience 2014; 34(6):2365-2373. PMCID: PMC3913877.
33. Sadeghi, SG, Pyott SJ, Yu Z, **Glowatzki E**. Glutamatergic signaling at the vestibular hair cell calyx synapse. Journal of Neuroscience, 2014;34(44):14536-14550. PMCID: PMC4212060.
34. Lui C, **Glowatzki E**, Fuchs PA. Unmyelinated type II afferent neurons report cochlear damage. Proc Natl Acad Sci USA 2015;112(47):14723-14727. PMCID: PMC4664349.
35. Roux I, Wu JS, McIntosh, JM**, Glowatzki E.** Assessment of the expression and role of the α1 nAChR subunit in efferent cholinergic function during the development of the mammalian cochlea. Journal of Neurophysiology 2016; 116(2):479-92. PMCID: PMC4978794.

36. Martinez-Monedero R, Liu C, Weisz C, Vyas P, Fuchs PA, **Glowatzki E**. GluA2-Containing AMPA Receptors Distinguish Ribbon-Associated from Ribbonless Afferent Contacts on Rat Cochlear Hair Cells. eNeuro. 2016; 12:3(2). PMCID: PMC4874539.
37. Wu JS, Young ED, **Glowatzki E**. Maturation of Spontaneous Firing Properties after Hearing Onset in Rat Auditory Nerve Fibers: Spontaneous Rates, Refractoriness, and Interfiber Correlations. J Neurosci**.** 2016; 12:36(41):10584-10597. PMCID: PMC5059429.
38. Vyas P, Wu JS, Zimmerman A, Fuchs P, **Glowatzki E**. Tyrosine Hydroxylase Expression in Type II Cochlear Afferents in Mice. J Assoc Res Otolaryngol 2017; 18(1):139-151. PMCID: PMC5243262.
39. Ye Z, Goutman JD, Pyott SJ, **Glowatzki E**. mGluR1 enhances efferent inhibition of inner hair cells in the developing rat cochlea. J Physiol 2017; 595(11):3483-3495. PMCID: PMC5451706.
40. Christensen SB, Hone AJ, Roux I, Kniazeff J, Pin JP, Upert G, Servent D, **Glowatzki E**, McIntosh JMM, RgIA4 potently blocks mouse a9a10 nAChRs and provides long lasting protection against oxaliplatin-induced cold allodynia. Frontiers in Cellular Neuroscience 2017 Jul 21;11:219. doi: 10.3389/fncel.2017.00219. eCollection 2017. PMCID:PMC5519620.
41. Wu JS, Vyas P, **Glowatzki E**, Fuchs PA. Opposing expression gradients of calcitonin-related polypeptide alpha (Calca/Cgrpa) and tyrosine hydroxylase (Th) in type II afferent neurons of the mouse cochlea. J Comp Neurol. 2018 526(3):425-438. PMCID: PMC5975645.
42. Vyas P, Wu JS, Jimenez A, **Glowatzki E**, Fuchs PA. Characterization of transgenic mouse lines for labeling type I and type II afferent neurons in the cochlea. Scientific Reports 2019, 9, Article number: 5549. PMCID: PMC6447598.
43. Ryu J, Vincent PFY, Ziogas NK, Xu L, Sadeghpour1 S, Curtin J, Alexandris AS, Stewart N, Sima R, du Lac S, **Glowatzki E**, Koliatsos VE. Optogenetically transduced human ES cell-derived neural progenitors and their neuronal progenies: phenotypic characterization and responses to optical stimulation. PLoS One. 2019 Nov 11;14(11):e0224846. doi: 10.1371/journal.pone.0224846. eCollection 2019. PMCID: PMC6844486.
44. Manca M, **Glowatzki E**, Roberts DC, Fridman GY, Aplin FP. Ionic direct current modulation evokes spike-rate adaptation in the vestibular periphery. Scientific Reports 2019 Dec 12;9(1):18924. doi: 10.1038/s41598-019-55045-6. PMCID: PMC6908704.
45. Wu JS, Yi E, Manca M, Javaid H, Lauer AM, **Glowatzki E**. Sound exposure dynamically induces dopamine synthesis in cholinergic LOC efferents for feedback to auditory nerve fibers. Elife. 2020 Jan 24;9. pii: e52419. doi: 10.7554/eLife.52419. PMCID: PMC7043886.
46. Yu Z, McIntosh M, Sadghegi S, **Glowatzki E**. Efferent Synaptic Transmission at the Vestibular Type II Hair Cell Synapse. J Neurophysiol. 2020; 124(2):360-374. PMCID: PMC7500374.
47. Zhang Y, **Glowatzki E**, Roux I, Fuchs PA. Nicotine Evoked Efferent Transmitter Release onto Immature Cochlear Inner Hair Cells. J Neurophysiol. 2020 124(5):1377-1387. PMCID: *in process.*
48. Ramakrishna Y, Manca M, Glowatzki E, Sadeghi SG. Cholinergic modulation of membrane properties of calyx terminals in the vestibular periphery. Neuroscience 2021 452:98-110. PMCID: *in process.*

Inventions, Patents, Copyrights None

Extramural Funding

Current Research Support

1/10/18 - 30/9/23 Afferent synaptic transmission in the mammalian cochlea
R01 DC 006476-11
NIH NIDCD
$ 2,279,756 total direct costs
Role: PI, 40 % effort; Co-Investigator: Amanda Lauer
This application aims to investigate how lateral efferent fibers modulate auditory nerve fiber activity. Sound exposure experiments and histological analysis in the auditory system are performed to investigate how sound exposure modulates the lateral efferent system. Cellular physiology is used to investigate underlying cellular mechanisms of afferent fiber modulation by lateral efferents.

7/01/17-6/30/22 Type II Afferents and Cochlear Damage

R01 DC 12559
NIH/NIDCD
$ 1,209,627 total direct costs
PI: Paul Fuchs
Role: Co-Investigator, 30 % effort
The overarching goal of this program of experiments is to complete the description of type II afferents, a still-unresolved component of cochlear innervation. The working hypothesis is that these serve as cochlear nociceptors. If correct these are a likely neurobiological substrate for noxacusis (painful hyperacusis).

1/13/14-12/31/19 Synaptic Mechanisms Underlying Vestibular Nerve Fiber Activity
R01 DC 012957-01A1
NIH/NIDCD
$ 1,179,300 total direct costs
Role: PI, 35 % effort
This proposal investigates the mechanism underlying afferent vestibular activity at the type I hail cell/calyx afferent synapse in the rat vestibular labyrinth.

12/19/13-12/1/20 Project Cochlear Innervation: The Role of Synaptic Signals During Neural Development and Physiology
John Mitchell Trust Fund
$ 153,000 total direct costs
Role: PI, 5 % effort
Basic properties of type I and type II auditory nerve fibers are investigated. The physiology of nerve fibers that newly innervate hair cells in the cochlea is investigated.

01/01/20-06/30/20 Ionic Direct Current Modulation of the Cochlear Afferents to Improve Cochlear Implant Performance
The David M. Rubenstein Hearing Research Fund
Department of Otolaryngology Head and Neck Surgery
Johns Hopkins School of Medicine, Baltimore MD
Role: Co-PI with Gene Fridman
$50,000,-

Previous Research Support

7/1/11 – 6/30/17 Excitability and Synaptic Function of Type II Afferents
R01 DC 011741-03
NIH/NIDCD
$ 1,462,993 total direct costs
PI: Fuchs
Role: Co-Investigator, 16 % effort
This proposal investigates the properties of type II afferent fibers in the mammalian cochlea regarding their synaptic inputs and mechanisms underlying excitability. Electrophysiological recordings in excised organs of Corti are used.

2016-2017 Synapse formation in regenerating ear tissue.
The David M. Rubenstein Hearing Research Fund
Department of Otolaryngology Head and Neck Surgery
Johns Hopkins School of Medicine, Baltimore MD
$ 300,000.-
Role: PI, 5 % effort

9/20/12-8/31/16 Short-term plasticity & temporal precision at the inner hair cell ribbon synapse
1 R03 TW009-403-02

NIH/ Fogarty International Center and NIDCD
$ 145,800 total direct costs
Role: PI, 4 % effort
In collaboration with Dr. Juan Goutman, Buenos Aires, Argentina. As a program building effort for a new investigator, this collaborative grant will mostly be performed in Buenos Aires, Argentina. Using electrophysiological methods, short-term plasticity and its effects on the coding of sound at the hair cell afferent synapse in the cochlea will be investigated.

1/1/04 - 11/30/14 Afferent synaptic transmission in the mammalian cochlea
R01 DC 006476-10
NIH NIDCD
$ 1,028,500 total direct costs
Role: PI, 30 % effort
This proposal investigates pre- and postsynaptic properties at the inner hair cell afferent synapse using electrophysiological recordings in excised organs of Corti. Afferent synaptic activity in cochleae from hearing animals is analyzed and the mechanisms underlying the diversity of auditory nerve fiber firing patterns are investigated.

7/1/15-6/30/18 Forming New Synaptic Contacts between Hair Cells and Auditory Nerve Fibers in the Inner Ear
Cordelia Corporation
$ 120,000 total costs
Role: PI, 5 % effort
This proposal's goal is to develop methods for investigating the physiological properties of new connections made between hair cells and auditory nerve fiber *in vitro.*

1/7/04-6/31/07 Molecular Physiology of Ribbon Synapses
RGY19/2004
Human Frontier Science Program, Young Investigators Grant
$ 675,000 per 4 laboratories
PI: Moser
Role: Co-Investigator; This proposal combines the expertise from 4 laboratories worldwide (Saaid Saffiedine, Pasteur Institute, France, Tobias Moser, University of Goettingen, Germany, Henrique von Gersdorff, Vollum Institute, Portland, OR and Elisabeth Glowatzki, Johns Hopkins University, Baltimore, MD, to dissect the role of presynaptic protein at the hair cell ribbon synapse using genetically modified mouse models.

7/1/06 – 6/30/11 Excitability and Synaptic Function in Cochlear Hair Cells
R01 DC 00276-27
NIH/NIDCD
$ 2,010,675 total direct costs
PI: Fuchs
Role: Co-Investigator, 20 % effort
This proposal includes collaboration with Dr. David Yue of the BME department at Hopkins. We will combine his laboratory's expertise in calcium channel function with studies of excitability and synaptic release from cochlear hair cells.

12/1/07-11/30/10 Spontaneous Activity in the Developing Cochlea
R01 DC008860-03
NIH/NIDCD
$ 635,375 total direct costs
PI: Bergles
Role: Co-Investigator, 10 %
This proposal investigates the source of spontaneous activity in auditory nerve fibers before the onset of hearing.

9/24/09-8/31/11 Afferent Synaptic Transmission in the Mammalian Cochlea
R01 DC 006476-06S1 ARRA Supplement
NIH/NIDCD
$ 106,250 total direct costs
Role: PI, effort under parent grant (65 %)
This proposal investigates the mechanisms of multivesicular release at the hair cell afferent synapse.

12/16/11-11/30/13 Virally Mediated Gene Therapy for Genetic Hearing Loss
1R21DC012118-01
NIH/NIDCD
$ 275,000 total direct costs
PI: Lustig
Role: Significant Contributor, 2 % effort
This proposal seeks to establish a therapy for genetic hearing loss by using adenoviral infection of the inner ear. Electrophysiological recordings in the Glowatzki lab are used to test the success of expressing induced genes in auditory nerve fibers.

Research Program Building / Leadership

2020-present Assoc. Vice Chair Department of Otolaryngology Head and Neck Surgery, The Johns Hopkins School of Medicine, Baltimore, MD
Leading Research in the Department together with Paul Fuchs (Vice Chair)

EDUCATIONAL ACTIVITIES

Educational Publications
Invited Review Articles

1. **Glowatzki E**. Analysis of Gene Expression in the organ of Corti Revealed by Single-Cell RT-PCR. Audiology & Neuro-Otology 1997; 2:71-78
2. Fuchs PA, **Glowatzki E**, Moser T. The afferent synapse of cochlear hair cells. Current Opinion in Neurobiology 2003; 13:452-458.
3. **Glowatzki E**, Grant L, Fuchs P. Hair cell afferent synapses. Current Opinion in Neurobiology 2008; 18(4):389-95.
4. Singer JH, **Glowatzki E**, Moser T, Strowbridge BW, Bhandawat V, Sampath AP. Functional properties of synaptic transmission in primary sense organs. Journal of Neuroscience 2009; 29(41):12802-6. PMCID: PMC2788503.
5. Grant L, Goutman JD, Yi E, **Glowatzki E**. Postsynaptic Recordings at Afferent Dendrites Contacting Cochlear Inner Hair Cells: Monitoring Multivesicular Release at a Ribbon Synapse. Journal of Visualized Experiments 2011, 48: pii: 2442. doi: 10.3791/2442. PMCID: PMC3110417. *This online article used videos and scenes filmed in the laboratory to educate laboratories worldwide about experimental methods developed in the laboratory.*
6. Fuchs PA, **Glowatzki E**. Synaptic studies inform the functional diversity of cochlear afferents. Hearing Research 2015;330(Pt A):18-25. PMCID: PMC4674337.

Teaching
Classroom Instruction

2004 Neuroscience Course for Medical Students 2004, Johns Hopkins School of Medicine, tutor for discussion groups, 1/16/04; 3/29/04.

2004-present: 'Structure and Function of the Auditory and Vestibular System', BME 580.625, Center for Hearing and Balance, Johns Hopkins School of Medicine, 9-10.30 am, Ross 529. Twice a week; lectures of multiple faculty of the Center of Hearing and Balance; 2 exams.
Director:
[8/13-12/13; 8/15-12/15; 8/17-12/17]
Lecturer:
'The Auditory Periphery: Transduction', 9/9/04; 9/14/06; 9/18/08; 9/10/09; 9/8/11; 9/3/13.
'Hair Cell Afferent Transmission', 9/11/08; 9/17/09; 9/13/11; 9/5/13; 9/27/18; 9/15/20
'Anatomy and Dissection of the rat cochlea', 5/10/05.
'Vestibular Periphery'; 10/30/18.

2005-2011 'Physiology for Applied Biomedical Engineering Course' 585.406, Johns Hopkins University Engineering and Applied Science Programs for Professionals.
Lecturer on 'Hearing', 4.30-7.10 pm. 4/26/05, 4/25/06, 4/17/07, 4/29/08, 4/14/09, 4/13/10, 4/19/11.

2007-present Neuroscience Elective Course: Molecular and Cellular Mechanisms of Synaptic Transmission (ME:440-707), Department of Neuroscience, Johns Hopkins School of Medicine, Spring 2007; Spring 2009; Spring, 2011; 2.30-5pm weekly, 9 weeks, WBSB 903 (Instructor together with Dr. Dwight Bergles, Dr. Paul Worley). [2007; 2009; 2011; 2014; 2019]

2009-2014 Cellular and Molecular Biology of Sensation, Johns Hopkins University, lecture series for undergraduate students, Lecturer on 'Hearing', 4/20/09. Lecturer on 'Hair cell synaptic transmission' 4/21/2014

2010-2011 'Nervous System and Special Senses', for 1st year medical students, Johns Hopkins School of Medicine. Lecturer on 'Neuromuscular Junction', [4/27/10; 4/28/11].

Clinical Instruction not applicable

CME Instruction not applicable

Workshops /Seminars

6/18/04 Summer Course Neurobiology 2004, Woods Hole Marine Biological Laboratories, MA, Lecturer on 'Hearing'.
6/2-25/05 Summer Course Neurobiology 2005, Woods Hole Marine Biological Laboratories, MA, Instructor for 'Cochlear Physiology', 3 weeks fulltime.
6/15/07 Summer Course Neurobiology 2007, Woods Hole Marine Biological Laboratories, MA, Lecturer on 'Hearing'.
8/15/11 Summer Course 'Biology of the Inner Ear', Woods Hole Marine Biological Laboratories, MA, Lecturer on 'Synaptic Transmission in the Inner Ear' 8/15/2011 and 3 full days of mentoring.

Mentoring

1996-1997 General mentor for all students in the graduate program Neurobiology, Tuebingen, Germany (1 year).
3/4/07 CPOW Career Roundtable Luncheon at the Biophysical Society Meeting, Baltimore MD, Mentor.
2/10/2019 Association for Research in Otolaryngology; Woman's Roundtable Discussion; Mentor.

Advisees

Highschool Students

2017-2020 Dharshan Varia Gifted and Talented/Advanced Research Program, Mt. Hebron High School, Ellicott City, MD

2020-present College at Duke University, Program on Global Health and Public Policy

Diploma students in Biology

1996-1997 Ralf Osteroth, Tuebingen, Germany
1997-1998 Patricia Langer, Tuebingen, Germany

Undergraduate Students

2017-present Jonathan Mo, Neuroscience Undergraduate Johns Hopkins University
2018-2019 Adrian Jimenez; Cellular and Mol. Biology and Neuroscience Undergraduate Johns Hopkins University

Medical Students

none

Graduate Students

2007-2011 Catherine Weisz (co-mentored with P. Fuchs)
- 7/07-6/10 Predoctoral Fellowship on Training Grant T32 DC000023.
- 7/10-6/11 Ruth L. Kirschstein National Research Service Award (NRSA). 1 F31 DC010948-01.
- 2011- 2015 Postdoctoral Fellow, Lab of Dr. Karl Kandler, Otolaryngology Department, University of Pittsburgh School of Medicine
- 2015- present Investigator, Section on Neuronal Circuitry, NIH/NIDCD, Bethesda, MD
- 2019 Presidential Early Career Award (PECASE) for Scientists and Engineers

8/11-3/16 Chang Liu (co-mentored with P. Fuchs)
- 7/16-present Postdoctoral Fellow with Genentech, San Francisco, CA

8/11-7/17 Sherry Wu Postdoctoral Fellow in Glowatzki Lab, Johns Hopkins School of Medicine

2/12-3/16 Zhou Yu
- 04/06/15 Ruth L. Kirschstein National Research Service Award (NRSA) 1F31DC014910-01.
- 2016/2017 Postdoctoral Fellow with Fred Rieke, University of Washington, Seattle, WA and Howard Hughes Institute
- 2018-present Data Scientist, KPMG, Greater Seattle Area

Postdoctoral Fellows

4/04-1/11 Eunyoung Yi, Ph.D.
- 2009-2011 Deafness Research Foundation, $ 50,000
- 2011- present Assistant Professor, Department of Pharmacology, Mokpo National University, Republic of Korea

7/04-11/07 Juan Goutman, Ph.D.
- 2009- present Investigador Adjunto (Junior Group Leader) at INGEBI (UBA-CONCIET), Buenos Aires, Argentina

8/06-12/06 Sonja Pyott, Ph.D.
- 2007 National Organization of Hearing Research Foundation, $ 20,000
- 2007 American Academy of Audiology Foundation, $ 10,000
- 2007-2009 Deafness Research Foundation $ 40,000
- 2009 Assistant Professor at the University of Wilmington, NC
- 2014-present Rosalind Franklin Fellow, Assistant Professor, University Medical Center Groningen, Netherlands

4/07-4/13 Isabelle Roux, Ph.D.
- 2007-2009 EMBO postdoctoral fellowship
- 2010 National Organization of Hearing Research Foundation, $ 20,000

	2012	Hearing Health Foundation, $ 25,000
	4/2013	promoted to Research Associate, Johns Hopkins University, Baltimore MD
	7/2013	R03, supported by NIH/NIDCD
	2015	Instructor, Johns Hopkins University, Baltimore MD
	2016-present	Staff Scientist NIH NIDCD, Bethesda, MD
10/07-2/10	Lisa Grant, Ph.D.	
	2010- 2019	Associate Medical Writer, Geomed, Macclesfield, UK
	2019- present	Freelance Healthcare Communication Consultant; Lisa Grant Consulting Ltd
9/08-9/13	Rodrigo Martinez Monedero, M.D., Ph.D. (international clinical fellow)	
	2009	Fullbright Scholarship, Euro 9000,-
	2016-present	Residency Program, Dept. of Otolaryngology UCLA, Los Angelos, CA
2/09-8/13	Soroush Sadeghi, Ph.D.	
	2012	National Organization of Hearing Research Foundation $ 20,000
	8/13-present	Assistant Professor, Department of Otolaryngology, University of Buffalo, Buffalo NY
6/11-5/12	Shilpa Chatlani, Ph.D.	
	2011	Postdoctoral Fellowship on Training Grant T32 DC000023-28
	2012	Medical Writer at Mudskipper Inc., Chicago, IL
	2018- present	Medical Communications at AveXis, Chicago, IL
9/14 – 9/16	Ye-Hyun Kim, Ph.D.	
	2016-2020	Postdoctoral Fellow with Amanda Lauer, Johns Hopkins School of Medicine, Dept. of Otolaryngology, Baltimore MD
	2020-present	Staff Scientist with Akouos, Boston, MA, (startup using genetic approaches for curing deafness)
4/15-4/16	Charlene Batrel, Ph.D.	
	2016-present	Clinical research/Clinical Support, Cochlear Implant Department, Oticon Medical, Nice, France
5/2016-present	Philippe Vincent, Ph.D.	
	7/2016-present	EMBO postdoctoral fellowship
	7/2018	Hearing Health Foundation Emerging Research Grant
4/2017-4/2018	Mamiko Niwa, Ph.D.	
	5/2018-2020	Parental leave
	2020-present	Research Lab Specialist, Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI
8/2017-5/2018	Jingjing Sherry Wu, Ph.D.	
	2018-present	Postdoctoral Fellow with Gordon Fishell, Harvard Medical School Dept. of Neuroscience, Boston, MA.
4/18-11/20	Marco Manca, Ph.D.	
	12/20-present	Associate Site Manager, IQVIA, Slovakia
10/19-present	Daniel Reijntjes, Ph.D.	

PhD student advisor and Thesis Committees

1/05-2/09	JeeHyun Kong, Neuroscience Department, Johns Hopkins School of Medicine, "Cholinergic synaptic inhibition of cochlear hair cells". Role: committee member.
2006	Isabelle Roux, Institute Pasteur, Paris, France, " Physiopathology de la surdite DFNB9: Identification de L'Otoferline comme composant essential de l'exocytose des synapses a ruban des cellules sensorielles auditives", Defense May 2006. Role: examiner.
11/06-4/10	Nicolas Tritsch, Neuroscience Department, Johns Hopkins School of Medicine, "The Origin of Spontaneous Activity in the Developing Auditory System", Role: committee member.
4/09-6/11	Catherine Weisz, Neuroscience Department, Johns Hopkins School of Medicine, "Type II cochlear afferents: encoding traumatic sound", Role: advisor, together with Paul Fuchs.
8/11-3/16	Chang Liu, Neuroscience Department, Johns Hopkins School of Medicine. Role: advisor, together with Paul Fuchs.

8/11-present	Sherry Wu, Neuroscience Department, Johns Hopkins School of Medicine. Role: advisor.
2/12-3/16	Zhou Yu, Neuroscience Department, Johns Hopkins School of Medicine. Role: advisor.
12/12-7/16	Tymoteusz J. Kajstura, Neuroscience Department, Johns Hopkins School of Medicine, Advisor: David Linden. Role: committee member.
10/13-6/14	Connie Tsai, Neuroscience Department, Stanford University, Stanford, CA, Advisor: Anthony Ricci. Role: committee member.
5/14- 11/18	Daniel Silverman, Neuroscience Department, Johns Hopkins School of Medicine, Advisor: King-Wai Yau. Role: committee member.
1/18-present	Nathaniel Nowak, Neuroscience Department, Johns Hopkins School of Medicine, Advisor: Paul Fuchs. Role: committee member.
6/18-5/19	Richard Sima, Neuroscience Department, Johns Hopkins School of Medicine, Advisor: Sascha Du Lac. Role: committee member.
8/18-6/19	William Snyder, Neuroscience graduate student. Role: Pre-thesis advisor.
8/18-6/19	Sriram Sudarsanam, Neuroscience graduate student. Role: Pre-thesis advisor.
8/18-6/19	Zhixiao Su, Neuroscience graduate student. Role: Pre-thesis advisor.
6/2019-present	Calvin Kersbergen, Neuroscience Department, Johns Hopkins School of Medicine, Advisor: Dwight Bergles. Role: committee member.
8/19-7/20	Yuxi Chen, Neuroscience graduate student. Role: Pre-thesis advisor.
8/20-present	Jonathan Alevy, Neuroscience graduate student. Role: Pre-thesis advisor.
8/20-present	Yotaro Sueoka, Neuroscience graduate student. Role: Pre-thesis advisor.
9/20-present	Cynthia Steinhart, BME Department, Johns Hopkins School of Medicine, Advisor: Gene Fridman. Role: committee member.
2/20-present	Caroline Siebald, Neuroscience Department, Johns Hopkins School of Medicine, Advisor: Ulrich Mueller. Role: committee member.

Training Grant Participation

7/1/15-6/30/20 "Training Program in Hearing and Balance"
[7/1/05-6/30/15] 5T32DC000023-34
NIH/NIDCD
PI: Paul Fuchs
Role: Program Faculty

7/1/20-6/30/25 "Research Training in Otolaryngology"
[7/1/05-6/30/25] 2T32DC000027-31A1
NIH/NIDCD
PI: John Carey
Role: Program Faculty

9/1/15- 8/31/20 "Neuroscience Training Program"
[9/1/10-8/31/15] 5T32NS091018-19
(former number: 5T32EY017203-12)
NIH/NEI
PI: Dwight Bergles
Role: Program Faculty

Educational Program Building / Leadership None

Educational Extramural Funding None

CLINICAL ACTIVITIES not applicable

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES None

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments and Activities

2005-2013	Member of the Postdoctoral Research Committee, The Johns Hopkins School of Medicine, meets biannually.
2006- present	Member, The Center for Sensor Biology (one of 8 founding members).
2007 -2012	Organizer of the Center for Hearing and Balance Seminar Series, Johns Hopkins School of Medicine, weekly, September through June, bringing national and international speakers to Johns Hopkins.
2008	Search Committee, tenure track faculty appointment for Otolaryngology/Center for Sensory Biology.
2010- 2011	Organizer for lunch meetings for class 1 of Leadership Program for Woman Faculty 2009/10, meets 2-4 time per year, Johns Hopkins School of Medicine.
2009-2010	Leadership program for Woman Faculty 2009/10, member of inaugural class, 10 month program, Johns Hopkins School of Medicine.
2012	Search Committee for Assistant Provost for International Student and Scholar Services, Johns Hopkins University.
2012-2013	Master Mentor Program, member of inaugural class, 10 months program, Johns Hopkins School of Medicine.
2013-2018	Johns Hopkins Office of Women in Science and Medicine, Advisory Board.
2013	Search Committee, for a joint tenure track faculty appointment in BME/Otolaryngology, all levels.
2013	Search Committee, for the Associate Dean of Postdoctoral Affairs, Johns Hopkins School of Medicine.
2014-2015	Postdoctoral Affairs Advisory Board, Johns Hopkins School of Medicine.
2014 - present	Facilitated the installment of the Geraldine Dietz Fox Endowed Research Fund; Oversaw the selection committee for the Geraldine Dietz Fox Young Investigator Award and presented yearly at the Association for Research in Otolaryngology Midwinter Meeting to an awardee selected nationwide (2014-2017); Oversees the selection of the bi-annual Geraldine Dietz Fox Research Award for a young investigator at Johns Hopkins.
2016 - present	Co-chair; Departmental Promotions Committee; Otolaryngology Head and Neck Surgery.
2018 – 2021	Steering Committee Neuroscience Graduate Program Johns Hopkins University.
2018	Search Committee, for a tenure track faculty appointment in Otolaryngology (genetics), all levels.
2020 - present	Departmental Mentorship Committee; Otolaryngology Head and Neck Surgery (Co-Chair 2020-21).
2021 - present	Executive Committee, T32 Training Grant, The Center for Hearing and Balance, JHU.

Editorial Activities

Editorial Board Activities

2013, 16, 19	*Proceedings of the National Academy of Sciences*, guest editor
2014-2017	Editorial Board, *Hearing Research*
2015-2021	Editorial Board, *JARO - Journal of the Association for Research in Otolaryngology*

Journal Peer Review Activities

Peer reviews over the last two decades, for:
Frontiers Aging Neuroscience
Nature Communications
Neuron
Proceedings of the National Academy of Sciences
The Journal of Neuroscience
The Journal of Neurophysiology
The Journal of Physiology
Neuroscience
Journal of Neuroscience Methods
Journal of the Association of Research in Otolaryngology (JARO)
Audiology & Neuro-Otology

Journal of Neurochemistry
Journal of Comparative Neurology
eLife
Current Biology
Cell and Tissue Research etc.

Advisory Committees, Review Groups/Study Sections

1998-2013	The Wellcome Trust, UK, ad hoc reviewer [1998-2010; 2013]
2004	NIH NIDCD, RO3 study section, ad hoc reviewer.
2006-2008	Animal Research Committee, Association for Research in Otolaryngology
10/09-6/13	Communication Disorders Review Committee (CDRC) of the National Institute on Deafness and Communication Disorders (NIDCD), member of study section.
2010	Deafness Research Foundation, ad hoc reviewer.
2010	Human Frontiers Science Program, ad hoc reviewer.
2011	Deutsche Forschungs Gemeinschaft (DFG), Bonn, Germany, for the nationwide Priority Program "Ultrafast and Temporally Precise Information Processing: Normal and Dysfunctional Hearing", Invited Member of an International Review Panel.
6/13	NIH Molecular, Cellular, and Developmental Neuroscience (MDCN) Special Emphasis Panel, ad hoc reviewer.
10/13-2/14	Communication Disorders Review Committee (CDRC) of the National Institute on Deafness and Communication Disorders (NIDCD), ad hoc reviewer. [10/13; 2/14]
10/13	Neurological Foundation New Zealand, ad hoc reviewer.
2014-2017	Association for Research in Otolaryngology Publications Committee; monitors the society's journal *JARO*
9/2014	Invited international reviewer for the Deutsche Forschungs Gemeinschaft (DFG), Germany, for the review of the Sonderforschungsbereich 889 " Zelluläre Mechanismen Sensorischer Verarbeitung (cellular Mechanisms of sensory Processing", two day site visit and review of 21 individual grants of the joint program in Goettingen, Germany.)
3-5/2015	Invited participant (of 14): NIDCD Workshop, " Synaptopathy and Noise Induced Hearing Loss: Animal Studies and Implications for Human Hearing" to identify barriers to, and opportunities in, this research area, and to articulate activities that could be initiated by the NIDCD in order to facilitate the translation of animal studies to the human auditory system, the clinic, and public health.
3/2018	Ad hoc reviewer NIH study section ZRG1 IFCN-T.
8/2018	Invited international reviewer for the Deutsche Forschungs Gemeinschaft (DFG), Germany, for the review of the Sonderforschungsbereich 889 " Zelluläre Mechanismen Sensorischer Verarbeitung (cellular Mechanisms of sensory Processing", two day site visit and review of 24 individual grants of the joint program in Goettingen, Germany.)
10/2019	NIH NIDCD Auditory System Study Section, ad hoc reviewer.
3/2020	Ad hoc reviewer and Co-Chair: Special Emphasis Panel for Auditory Neuroscience and Learning & Memory (AUD and LAM) 2020/05 ZRG1 IFCN-E (02) M.
2020	Association for Research in Otolaryngology Nominations Committee; nominates the president-elect and other key members of the ARO leadership
10/2020	NIH NIDCD Auditory System Study Section, ad hoc reviewer.
10/2020	NIH NIDCD Special Emphasis Panel/Scientific Review Group 2021/01 ZRG1 IFCN-S (50) R

Professional Societies

1997 – present	Association for Research in Otolaryngology
1999 – present	Society for Neuroscience
2002 – 2010	German Neuroscience Society (Neurowissenschaftliche Gesellschaft)
2002 – 2010	Federation of European Neuroscience Societies
2010 – present	American Physiological Society

Conference Organizer, Session Chair

2003	Symposium 'Afferent Synaptic Transmission in the Cochlea' at the Association of Research in Otolaryngology Midwinter Meeting, Daytona, FL, USA, organizer together with T.D. Parsons.

2008 Symposium 'Hair Cell Afferent Synaptic Transmission' at the Association of Research in Otolaryngology Midwinter Meeting, Phoenix, AZ, USA, organizer together with Tobias Moser.

2015 Organizer of the celebration event for the retiring President of the National Organization for Hearing Research Foundation NOHR, Geraldine Dietz Fox, with board members and grant recipients, Association for Research in Otolaryngology Midwinter Meeting 2015, Baltimore MD.

Consultantships None

RECOGNITION

Awards, Honors

1997-1999 Award of the 'Deutsche Akademische Austauschdienst' (DAAD, German academic exchange program) for a British-German Academic Research Collaboration (AZ313-ARC) between Elisabeth Glowatzki, Tuebingen, Germany and Ian Russell, Brighton, UK.

2/04 7th recipient of the 'Burt Evans Young Investigator Award' for dedicated commitment and excellence in the pursuit of otologic studies by the National Organization for Hearing Research Foundation. Annual Midwinter Meeting of the Association for Research in Otolaryngology, Daytona Beach, FL.

10/2020 The George T. Nager M.D. Professorship in the Department of Otolaryngology Head and Neck Surgery.

Invited Talks, Panels

1996 Identification of the mRNA of ion channel subunits in hair cells of the mammalian cochlea. Baylor College of Medicine, Department of Otolaryngology, Houston, TX, USA.

1996 Molecular basis and physiology of ligand-gated ion channels in sensory cells of the mammalian cochlea. Department of Physiology, Medical Sciences, University of Bristol, UK.

1996 Expression of a P2X.2 receptor splice variant in auditory hair cells. School of Biological Sciences, University of Sussex, Brighton, UK.

1997 Molecular determinants of P2X.2 receptor desensitization in outer hair cells of the rat cochlea. International Union of the Physiological Sciences, St. Petersburg, Russia.

1997 Molecular basis and physiology of P2X receptors in hair cells of the mammalian cochlea. Center of Hearing Sciences, School of Medicine, Johns Hopkins University, Baltimore, MD, USA.

1999 Cholinergic synaptic currents in inner hair cells before the onset of hearing. Neuroscience Department, Johns Hopkins School of Medicine, Baltimore, MD, USA.

2000 Innervation and synaptic transmission in the developing mammalian cochlea. Cold Spring Harbor Laboratory Courses, 'Physiological Approaches to Ion Channel Biology', Cold Spring Harbor, USA.

2001 Synaptic inhibition of cochlear hair cells. Association for Research in Otolaryngology Midwinter Meeting, St. Petersburg, FL, USA. Symposium 'Olivocochlear Feedback': Mechanism and Function.

2001 Postsynaptic activity at the inner hair cell-afferent fiber. Symposium 'Signal Transduction in the Auditory System'. Max-Planck Institut fuer Experimentelle Medizin, Goettingen, Germany.

2002 Synaptic transmission in the mammalian cochlea. Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI, USA.

2002 Synaptic transmission at the hair cells in the inner ear. Vollum Seminar Series, Vollum Institute, Oregon Health Sciences University, Portland, OR, USA.

2002 Transmitter release at the hair cell ribbon synapse. Symposium 'Exocytosis at ribbon-type synapses' Program No. 709. Society for Neuroscience 32nd Annual Meeting, Orlando, FL, USA.

2002 Postsynaptic currents at the hair cell ribbon synapse. Physiological Society, University College London, Scientific Meeting, Research Symposium 'Building Hearing', London, UK.

2005 Transmitter release at the hair cell ribbon synapse. University of Texas Medical Center Seminar Series, Houston, TX, USA.

2005 Postsynaptic mechanism enabling high fidelity signaling at the inner hair cell afferent synapse. Society for Neuroscience 35th Annual Meeting, Washington, DC, USA.

2006 Dendritic regulation of afferent activity at the inner hair cell ribbon synapse. Symposium on Ribbon synapses: physiology, molecular dynamics. College de France, Paris, France.
2006 Synaptic transmission at the hair cell ribbon synapse. Neuroscience Seminar. Institute of Neuroscience, University of Oregon, Eugene, OR.
2006 Transmitter release at the hair cell afferent synapse: mechanisms underlying high fidelity signaling in the inner ear. The Center for Sensory Biology Inaugural Symposium. Sensory Biology: Understanding our Windows to the Worlds. Johns Hopkins University, Baltimore, MD.
2007 Synaptic transmission at the hair cell afferent synapse in the mammalian cochlea. Albert Einstein College of Medicine, Bronx, NY.
2007 Mechanism for coding sound at the hair cell's afferent synapse. Symposium on 'Modulation of Primary Sensory Function'. 51st Annual Meeting of the Biophysical Society, Baltimore, MD.
2007 Mechanism underlying Adaptation at the Inner Hair Cell Ribbon Synapse in the Mammalian Cochlea. Department of Neuroscience, University of Virginia, Charlottesville, VA.
2007 Transmitter release at the hair cell ribbon synapse. Massachusetts Eye & Ear Infirmary, Eaton Peabody Laboratory, Boston, MA.
2008 Transmitter release at the inner hair cell ribbon synapse, Rutgers University, Rutgers Woman in Neuroscience Seminar Series, New Brunswick, NJ.
2008 Transmitter release at a single ribbon synapse, Neuroscience Department, Harvard Medical School, Boston,
2008 Synaptic Transmission in the Mammalian Cochlea. Gordon Conference Auditory System. New London, NH.
2008 Time course and calcium dependence of transmitter release at the hair cell ribbon synapse. FASEB Summer Research Conferences. Retina; Neurobiology and Visual Processing. Snowmass, CO.
2008 Synaptic transmission at the inner hair cell ribbon synapse in the mammalian cochlea. Zoophysiology and Behavior Group. University of Oldenburg, Germany.
2009 Maturation of Synaptic Transmission at the Inner Hair Cell Afferent Synapse. 7th Molecular Biology of Hearing and Deafness, Harvard Medical School, Boston.
2009 Properties of transmitter release at the hair cell afferent synapse. NIH Neuroscience Series, Bethesda, MD.
2009 Maturation of Synaptic Transmission at the Inner Hair Cell Afferent Synapse. Neuroscience Meeting, Minisymposium on "Functional Properties of Synaptic Transmission in Primary Sensory Organs", Chicago,
2010 Two modes of release shape the postsynaptic activity at the inner hair cell afferent synapse. The Vollum Institute Seminar Series, Portland, OR
2010 Two modes of release shape the postsynaptic activity at the inner hair cell afferent synapse. International Titisee Conferences, Sensory Transduction, the gateway to perception: mechanisms and pathology. Titisee, Germany.
2011 Synaptic transmission in the inner ear. American Auditory Society, Scottsdale, AZ.
2011 Glutamatergic neurotransmission at the vestibular hair cell – calyx synapse. Ribbon Synapses Symposium, Goettingen, Germany.
2012 Properties of synaptic transmission at different hair cell ribbon synapses. Symposium on Molecular Anatomy and Physiology of the Ribbon Synapse. Association of Research in Otolaryngology Midwinter Meeting 2012, San Diego, CA.
2012 Synaptic transmission at different hair cell ribbon synapses. Sensory Neuroscience and Neuroengineering Seminar Series. Stanford School of Medicine, Stanford, CA.
2012 Synaptic transmission at different hair cell ribbon synapses. Johns Hopkins University Department of Neuroscience Annual Retreat, St. Michaels, MD.
2013 Afferent Synaptic Transmission in the Inner Ear: A Comparison of Mechanisms at Work in the Cochlea and in the Vestibular System. Auditory Neuroscience Research Retreat; Keynote Address. University of Iowa, Department of Biology, Iowa City, IA.
2014 Afferent Synaptic Transmission at the Hair Cell Ribbon Synapse. Department of Neurobiology Seminar Series, University of Pittsburgh, PA.
2014 Afferent Synaptic Transmission at the Hair Cell Ribbon Synapse. Department of Communication Sciences and Disorders Speaker Series, Northwestern University, Chicago IL.
2014 Mechanisms for setting up Firing Rates in Auditory and Vestibular Nerve Fibers. Seminar Series at the Eaton Peabody Laboratories of Auditory Research, Eye & Ear Infirmary, Harvard Medical School, Boston, MA.
2014 Cellular Mechanisms underlying Auditory Nerve Fiber Activity in the Inner Ear. Hearing Center Seminar Series, Boston University, Boston, MA.

2015 Hair cell Ribbon Synapse Function. Biophysical Society 59th Annual Meeting. Exocytosis and Endocytosis Subgroup Symposium. Baltimore, MD.

2015 Synaptic transmission at cochlear and vestibular hair cells – a comparison. Neuroscience Seminar Series. Stony Brook University, Stony Brook, NY.

2018 Lateral Efferent Modulation of Auditory Nerve Fiber Activity. University of Rochester, NY, Neuroscience Colloquium.

2018 Modulation of Hair Cell Afferent Transmission by Lateral Efferent Fibers. Auditory Systems Gordon Research Conference, Smithfield, Rhode Island.

2018 Lateral Efferent Modulation of Auditory Nerve Fiber Activity. Keynote lecture. 55th Inner Ear Biology Workshop, Berlin, Germany.

2018 Lateral Efferent Modulation of Auditory Nerve Fiber Activity. "Hearing and Balance at Hopkins", one day symposium on Research supported by the David M. Rubenstein Fund, Johns Hopkins Department of Otolaryngology, Baltimore, MD.

2019 Efferent modulation of afferent activity in the inner ear; an overview of underlying cellular mechanisms. Minisymposium Inner Ear Efferents: Form and Function. ARO Midwinter Meeting, Baltimore MD.

2019 Efferent Modulation of Nerve Fiber Activity in the Inner Ear. The Fernandez Lindsay Lecture; Department of Otolaryngology, University of Chicago, Chicago, IL.

2020 multiple talks canceled due to Covid 19 restrictions.

2021 Synaptic transmission at cochlear hair cell auditory nerve fiber synapses. Seminar Series; Ruttgers University Women in Neuroscience, Ruttgers University, NJ.