

Rebecca M. Lewis, Au.D., Ph.D., CCC-A, CH-TM

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EDUCATION

2008 – 2016 Combined Doctorates of Audiology and Philosophy (Au.D./Ph.D.)
Virginia Merrill Bloedel Hearing Research Center
Department of Speech and Hearing Sciences
University of Washington (UW)

2004 – 2008 Bachelor of Science
Speech and Hearing Sciences
University of Washington

CLINICAL EXPERIENCE

2018 – *present* Clinical Audiologist of the Audiology Division
Department of Otolaryngology, Massachusetts Eye and Ear, Harvard Medical School

- Clinical duties included:
 - Audiometry for adults in a medical center with otologic and other complex health histories
 - Audiometry for children age 9 months and older (with and without complex medical histories)
 - Communication needs assessments and/or hearing aid selections for patients aged 13 years and older, with a focus on the adult population
 - Hearing aid fitting with a focus on the adult populations, with a special interest in working with tinnitus patients
 - Hearing aid services for patients aged 6 and older, with a focus on adults
 - Gained familiarity with Phonak and Oticon hearing aids
- Additional duties included:
 - Coordinating collaborative audiology research efforts, often spanning departments and institutions
 - Emphasis in research design, project coordination, IRB submission and approval
 - Advising department on clinical management options offered for tinnitus patients

2008 – 2016 Audiology Graduate Student Clinical Rotations (*dates of rotations available upon request*)
Speech and Hearing Sciences, University of Washington

- Veterans Administration: Audiometry, electrophysiology, cochlear implants, vestibular battery (same as UW Medical Center), hearing aid technology, tinnitus management
- UW Medical Center: Vestibular battery (platform posturography, videonystagmography, cervical vestibular evoked myogenic potential, rotary chair, caloric testing)
- University of Washington (UW) Speech and Hearing Clinic: Audiometry
- Harborview Medical Center: Audiometry and hearing aid technology
- UW Experience Aural Rehabilitation: Audiometry, hearing aids, aural rehabilitation
- Seattle Hearing and Balance: Audiometry, vestibular (videonystagmography), tinnitus management
- UW Center for Human Development and Disability: Pediatric diagnostics, including audiometry and electrophysiology
- Seattle Children's Hospital: Pediatric aural rehabilitation
- UW Speech Pathology Clinic: Speech pathology group rehabilitation
- Swedish Medical Center: Adult and pediatric audiometry and hearing aid technology

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RESEARCH EXPERIENCE

- 2018 – *present* Postdoctoral Research Fellowship & Research Audiologist
Daniel Polley, Ph.D.
Neural Plasticity Laboratory
Eaton Peabody Laboratory, Massachusetts Eye and Ear, Harvard Medical School
- Investigate database of over 100,000 patients seen at MEE to evaluate audiometric predictors of tinnitus
- 2016 – 2018 Postdoctoral Research Fellowship
Konstantina Stankovic, M.D., Ph.D.
Molecular Neurotology and Biotechnology Laboratory
Eaton Peabody Laboratory, Massachusetts Eye and Ear, Harvard Medical School
- Investigated mechanisms of sensorineural hearing loss and cochlear damage among patients with vestibular schwannoma
 - Investigated ototoxicity of tumor necrosis factor alpha in mature mammalian model
- 2011 – 2016 Dissertation Research
Jennifer Stone, Ph.D., Mentor; Ed Rubel, Ph.D., Co-Mentor
Virginia Merrill Bloedel Hearing Research Center, University of Washington
- Investigated expression and function of Atonal (ATOH1), Bone Morphogenetic Protein (BMP), Inhibitor of Differentiation & DNA binding (ID) in mature avian epithelia during hair cell regeneration
- 2008 – 2011 Audiology Capstone & Pre-Dissertation Research Project
Jennifer Stone, Ph.D., Mentor
Virginia Merrill Bloedel Hearing Research Center, University of Washington
- Investigated role of Atonal (ATOH1) among supporting cell proliferation and differentiation during hair cell regeneration in mature avian epithelia
- 2007 – 2008 Undergraduate Honors Project
Kristie Spencer, Ph.D., Mentor
Motor Speech & Cognitive Disorders Lab, University of Washington
- Compared two measures of executive function, the Wisconsin Card Sorting Test and the Controlled Oral Word Association Test) in people with Parkinson's disease
- 2007 – 2008 Research Assistant
Lynne Werner, Ph.D., Mentor
Infant Hearing Laboratory, University of Washington
- Assisted with Visual Reinforcement Audiometry of subjects aged 11 weeks to 9 months to investigate the development of human auditory perception
- 2005 Howard Hughes Medical Institute Biology Fellowship
Clarissa Dirks, Ph.D., Mentor
School of Medicine, University of Washington
- Investigated species diversity of *Scarabaeidae* beetles along Andean elevational gradients of Ecuador

EDITORIAL SERVICE

- 2017 Invited Reviewer, Nature Neuroscience
2017 Invited Reviewer, Scientific Reports

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MEMBERSHIPS AND CERTIFICATIONS

2019 – <i>present</i>	Member, American Speech Language and Hearing Association
2018 – <i>present</i>	Member, Association for Research in Otolaryngology
2018 – <i>present</i>	Certificate Holder – Tinnitus Management (CH-TM), American Board of Audiology
2018	Non-Member Affiliate, American Speech Language and Hearing Association
2016 – <i>present</i>	Member, American Academy of Audiology (AAA)
2016 – <i>present</i>	Board Certification in Audiology, American Board of Audiology
2008 – 2016	Member, Student Academy of Audiology (SAA)
2008 – 2016	Student Member, Washington State Academy of Audiology
2006 – 2008	Student Member, National Student Speech Language and Hearing Association

NATIONAL SERVICE

2019 – <i>present</i>	Editorial Committee for the Hearing Health Foundation Magazine
2019 – <i>present</i>	Invited Member of ARO External Relations Committee
2018 – 2019	Appointed Member of AAA Task Force: Role of the Audiologist in the Provision of Pharmaceutical Agents for the Prevention or Treatment of Hearing Loss
2013 – 2014	Elected Member-at-Large, National Board of Directors Secretary, Co-Chaired the Joint SAA/AAA PhD Student Subcommittee Student Academy of Audiology
2013 – 2014	Elected Member-at-Large, National Board of Directors National Student and Postdoctoral Association for Otolaryngology
2010 – 2012	PhD Committee Member, National Student Academy of Audiology

HONORS, AWARDS, AND FELLOWSHIPS

2019, 2011	Audiologist Travel Award Association for Research in Otolaryngology
2018	Early Career Professionals Program, Inaugural Cohort American Speech, Language, and Hearing Association (ASHA)
2015, 2012	Graduate Student Poster Session Award American Auditory Society
2013	Travel Award Molecular Biology of Hearing and Deafness Conference
2013 – 2014	Science Communication Fellowship Pacific Science Center
2012	National Research Service Award Fellowship (F30 mechanism) National Institutes of Health (NIDCD/NIH)
2012, 2011	Travel Award from the Olswang Endowed Student Conference Fund University of Washington
2010	Auditory Neuroscience Training Fellowship (T32) University of Washington
2008	Graduated with Distinction from Speech and Hearing Sciences
2008	Elected undergraduate speaker for Speech and Hearing Sciences graduation
2005	Admitted to the Howard Hughes Biology Fellows Program

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LOCAL SERVICE

2017 – 2019	Co-President, Massachusetts Eye and Ear Postdoctoral Association
2016 – 2018	Social Coordinator, Eaton Peabody Laboratory
2016 – 2017	Organizer, Eaton Peabody Laboratory Journal Club
2011 – 2013	Governmental Relations Committee Member Washington State Academy of Audiology
2011 – 2012	Member-at-Large, UW Student Academy of Audiology
2009 – 2010	Chapter President, UW Student Academy of Audiology
2008 – 2009	Chapter Vice President, UW Student Academy of Audiology
2008	Founding Officer, UW Student Academy of Audiology
2007 – 2008	Chapter President, University of Washington National Student Speech Language and Hearing Association

COMPLETED RESEARCH SUPPORT

2012 – 2016	Defining ATOH1 function and regulation in avian supporting cells Supported by NIDCD/NIH F30 DC012228-04 Individual Predoctoral NRSA for Dual Doctoral Students
2014 – 2015	Student Investigator Research Grant Supported by American Academy of Audiology Foundation
2010 – 2012	Auditory Neuroscience Training Program Supported by NIDCD/NIH T32 DC005361-09

TEACHING EXPERIENCE AT THE UNIVERSITY LEVEL

2017 – 2019	Selected Lectures in Clinical Audiology Speech & Hearing Biotechnology (SHBT) PhD Program, Harvard Medical School <ul style="list-style-type: none">• Co-Taught Basic Audiometry and Amplification with Margaret Gregowicz in 2017, Kevin Franck in 2018, and Julie Arenberg in 2019
2014	Introduction to Hearing Science, Co-Taught with Julie Arenberg Clinical Doctorate of Audiology Program, University of Washington

OTHER TEACHING AND MENTORING EXPERIENCE

2019	Invited Speaker for Science Café at the Association for Research in Otolaryngology <ul style="list-style-type: none">• Casual forum to discuss science with members of the public
2016 – <i>present</i>	Volunteer mentor, Bottom Line <ul style="list-style-type: none">• Mentoring first-generation and low-income undergraduate students
2014	Volunteer educator, Celebrate Hearing, Seahawks Hearing Awareness Event
2014, 2013	Workshop Leader, Expanding Your Horizons Workshop <ul style="list-style-type: none">• Teaching young women in science, technology, engineering, and math
2015, 2013, 2011	Volunteer educator, UW Brain Awareness Week <ul style="list-style-type: none">• Teaching K-12 students about hearing and the brain
2011, 2010, 2009	Volunteer educator, Woodstick, Hearing Protection Awareness Booth
2007	Guest Teacher, UW Alternative Spring Break <ul style="list-style-type: none">• Teaching 8th grade science students in a rural community about the solar system with a focus on the planet Mars

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CONFERENCE PRESENTATIONS

- Lewis RM** & Spencer K. Executive Function in Individuals with Parkinson's Disease: A Comparison of Two Measures. University of Washington Undergraduate Research Symposium. June 2008.
- Lewis RM**, Hume CR, Stone JS. *Atob1* promotes mitotic and non-mitotic forms of auditory hair cell regeneration in post-hatch chickens. Northwest Auditory and Vestibular Research Meeting. 2012.
- Lewis RM**, Hume CR, Stone JS. *Atob1* expression and function during auditory hair cell regeneration in post-hatch chickens. American Auditory Society. 2012.
- Lewis RM**, Hume CR, Stone JS. *Atob1* expression and function during auditory hair cell regeneration in post-hatch chickens. Association for Research in Otolaryngology. 2012.
- Keller J, **Lewis RM**, Stone J. Bone Morphogenetic Protein and Inhibitor of Differentiation Antagonize Hair cell Differentiation during Avian Hair Cell Regeneration in Post-Hatch Chickens. Association for Research in Otolaryngology. 2013.
- Keller J, **Lewis RM**, Stone J. Bone Morphogenetic Protein and Inhibitor of Differentiation Antagonize Hair cell Differentiation during Avian Hair Cell Regeneration in Post-Hatch Chickens. Molecular Biology of Hearing and Deafness Meeting. 2013.
- Lewis RM**, Keller J, Stone J. Bone Morphogenetic Proteins Antagonize Hair cell Differentiation during Avian Hair Cell Regeneration in Post-Hatch Chickens. American Auditory Society. 2015.
- Parthasarathy A, **Lewis RM**, Polley DB. Data-driven segmentation of audiometric aging phenotypes across a large clinical cohort. Association for Research in Otolaryngology. 2019.
- Sahin MI, **Lewis RM**, Katsumi S, Iyer JI, Landegger L, Stankovic KM. Intracochlear Perfusion of Tumor Necrosis Factor-alpha Induces Sensorineural Hearing Loss and Synaptic Degeneration in Guinea Pigs. Association for Research in Otolaryngology. 2019.
- Lewis RM**, Parthasarathy A, Polley DB. Audiometric predictors of tinnitus at Massachusetts Eye and Ear. Association for Research in Otolaryngology. 2019.

SELECTED PODIUM PRESENTATIONS

- Defining *Atob1* function and regulation in avian supporting cells during auditory hair cell regeneration. Dissertation Defense, Speech and Hearing Sciences, University of Washington. May 2016.
- Latest Advances in Hair Cell Regeneration: Clinical Implications. Veterans Affairs, Puget Sound Health Care System. March 2016.
- Clinical Implications of Hair Cell Regeneration. Aural Rehabilitation Group Session, Speech and Hearing Sciences, University of Washington. September 2014.
- Inhibitors of differentiation during avian hair cell regeneration. Hair Cell Regeneration Meeting, University of Washington. February 2013.
- Atob1* promotes both mitotic and non-mitotic forms of regeneration. Auditory Neuroscience Retreat, University of Washington. May 2011, May 2012.
- The Role of *Atob1* During Avian Auditory Hair Cell Regeneration. Auditory Neuroscience Training Grant Seminar, University of Washington. January 2011.
- The Role of *Atob1* During Avian Auditory Hair Cell Regeneration. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. December 2010.

PHD DISSERTATION

- Lewis, RM** (2016) "Defining *Atob1* function and regulation in avian supporting cells during auditory hair cell regeneration", University of Washington.

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PUBLISHED WORKS

Lewis, RM, Hume, CR and Stone, JS (2012) ‘*Atoh1* expression and function during auditory hair cell regeneration in post-hatch chickens’, *Hearing Research*, 289(1–2), pp. 74–85. doi: 10.1016/j.heares.2012.04.008.

Lewis, RM, Rubel, EW and Stone, JS (2016) ‘Regeneration of Auditory Hair Cells: A Potential Treatment for Hearing Loss on the Horizon’, *Acoustics Today*, 12(2), pp. 40–48. Available at: <http://acousticstoday.org/wp-content/uploads/2016/06/Lewis.pdf>.

Sagers, JE, Brown, AS, Vasilijic, S, **Lewis, RM**, Sahin, MI, Landegger, LD, Perlis, RH, Kohane, IS, Welling, DB, Patel, CJ, Stankovic, KM (2018) ‘Computational repositioning and preclinical validation of mifepristone for human vestibular schwannoma’, *Scientific Reports*, 8(1):5437. doi: 10.1038/s41598-018-23609-7.

Lewis, RM, Keller, JJ, Wan, L, and Stone, JS (2018) ‘Bone morphogenetic protein 4 antagonizes hair cell regeneration in the avian auditory epithelium’, *Hearing Research*, 364, pp. 1–11. doi: 10.1016/j.heares.2018.04.008.

Lewis, RM (2019) ‘Reaching across the aisle for OTC hearing aids’, *Hearing Health*, Spring 2019, pp. 36. Available at: <https://view.publitas.com/p222-4764/hearing-health-spring-2019-issue/page/36-37>.

Ahmed, SG, Ahmed, A, Maguire, CA, Doha, M, Sagers, J, **Lewis, RM**, ... Brenner, GJ (2019) ‘Gene therapy with apoptosis-associated speck-like protein (ASC), a newly described schwannoma tumor suppressor, inhibits schwannoma growth in vivo’, *Neuro-Oncology*, <https://doi.org/10.1093/neuonc/noz065>

UPCOMING PUBLICATIONS

Sahin, MI, **Lewis, RM**, Katsumi, S, Iyer, J, Landegger, L, and Stankovic, KM ‘Intracochlear perfusion of tumor necrosis factor-alpha induces sensorineural hearing loss and synaptic degeneration in guinea pigs’. (*Under revision*)

Parthasarathy, A, Romero-Pinto, S, **Lewis, RM**, Goedicke, WB, Polley, DB. Data-driven segmentation of audiometric aging phenotypes across a large clinical cohort. (*Under revision*)

Lewis, RM, Parthasarathy, A, Goedicke, WB, Polley, DB. Audiometric predictors of tinnitus in a large clinical cohort of adult patients with sensorineural hearing loss. (*In preparation*)