

Rebecca Lewis, AuD, PhD

E-mail: rebecca_lewis@meei.harvard.edu

EDUCATION & WORK EXPERIENCE

- 2018 – *present* Clinical & Research Audiologist
Massachusetts Eye and Ear Infirmary
Research Fellow of Harvard Medical School
- 2016 – 2018 Postdoctoral Research Fellow
Eaton-Peabody Labs
Massachusetts Eye and Ear Infirmary
Harvard Medical School
- 2010 – 2016 Doctorate of Philosophy
Virginia Merrill Bloedel Hearing Research Center
Speech and Hearing Sciences
University of Washington (UW)
- 2008 – 2016 Doctorate of Audiology
Speech and Hearing Sciences
University of Washington
- 2004 – 2008 Bachelor of Science
Speech and Hearing Sciences
University of Washington

RESEARCH EXPERIENCE

- 2018 – *present* Research Audiologist & Postdoctoral Research Fellow
Daniel Polley, Ph.D., mentor
- Investigating neural signatures of tinnitus among patients with and without hearing loss
- 2016 – 2018 Postdoctoral Research Fellow
Konstantina Stankovic, M.D., Ph.D., Mentor
- Investigated mechanisms of sensorineural hearing loss 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
- Investigated expression and function of *Atoh1*, Bone Morphogenetic Protein (BMP), and Inhibitor of DNA binding (ID) in mature avian epithelia during hair cell regeneration
- 2008 – 2011 Audiology Capstone & Pre-Dissertation Research Project
Jennifer Stone, Ph.D., Mentor
- Investigated the role of *Atoh1* during hair cell differentiation and proliferation in mature, damaged avian epithelia
- 2007 – 2008 Undergraduate Honors Research Project
Kristie Spencer, Ph.D., Mentor
- Investigated the comparison of measures of executive functions (Wisconsin Card Sorting Test and the Controlled Oral Word Association Test) in people with Parkinson's disease
- 2007 – 2008 Infant Hearing Lab
Lynne Werner, Ph.D., Mentor
- Worked as a research assistant with infants aged 11 weeks to 9 months to investigate the development of human auditory perception

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2005 Howard Hughes Medical Institute Biology Fellowship
School of Medicine, University of Washington
Clarissa Dirks, Ph.D., Mentor

- Investigated *Scarabaeidae* species diversity along Andean elevational gradients of Ecuador

HONORS, AWARDS, & FELLOWSHIPS

2017 – current National Institutes of Health Loan Repayment Program Recipient
2012, 2015 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 NRSA Fellowship
NIDCD of NIH
2011, 2012 Travel Award
Lesley B. and Steven G. Olswang Endowed Student Conference Fund
University of Washington
2011 Audiologist Travel Award
Association for Research in Otolaryngology
2010 Auditory Neuroscience Training Fellowship
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

EDITORIAL SERVICE

2017 Invited Reviewer, *Nature Neuroscience*

NATIONAL SERVICE

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 & Postdoctoral Association for Otolaryngology
2010 – 2012 PhD Committee Member, National Student Academy of Audiology

LOCAL SERVICE

2016 – 2017 Organizer, Eaton Peabody Labs Journal Club
2011 – 2013 Governmental Relations Committee Member
Washington State Academy of Audiology
2011 – 2012 Member-At-Large at UW, Student Academy of Audiology
2009 – 2010 Chapter President at UW, Student Academy of Audiology
2008 – 2009 Chapter Vice President at UW, Student Academy of Audiology
2008 Founding officer at UW, Student Academy of Audiology
2007 – 2008 Chapter President, University of Washington
National Student Speech Language and Hearing Association

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MEMBERSHIPS & CERTIFICATIONS

2017 ASHA Clinical Certificate of Competency in Audiology (CCC-A)
2016 – *present* Member, American Academy of Audiology
2016 Board Certification in Audiology
2008 – 2016 Member, Student Academy of Audiology
2009 – 2016 Student Member, Washington State Academy of Audiology
2006 – 2008 Student Member, National Student Speech Language and Hearing Association

COMPLETED RESEARCH SUPPORT

<i>NIH/NIDCD Funding:</i> T32 DC005361-09 Covey, Ellen (PI) 07/01/02-06/30/12 Auditory Neuroscience Training Program Supported by T32 Grant 6/2010-6/2012. Role: TA	<i>NIH/NIDCD Funding:</i> F30 DC012228-04 Lewis, Rebecca (PI) 07/01/12-06/30/16 Defining ATOH1 function and regulation in avian supporting cells Role: PI	<i>AAAF Funding:</i> Lewis, Rebecca (PI) 07/01/14-06/30/15 Student Investigator Research Grant Supported by American Academy of Audiology Foundation Role: PI
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TEACHING EXPERIENCE AT UNIVERSITY LEVEL

2018 Lectures in Clinical Audiology, Co-Taught with Kevin Franck (SHBT)
Speech & Hearing Biotechnology PhD Program
Harvard Medical School
2017 Lectures in Clinical Audiology, Co-Taught with Margaret Gregowicz (SHBT)
Speech & Hearing Biotechnology PhD Program
Harvard Medical School
2014 Hearing Science, Co-Taught with Julie Bierer (SPHSC 509)
Clinical Doctorate of Audiology Program
University of Washington

OTHER TEACHING AND MENTORING EXPERIENCE

2016 – *present* Volunteer Mentor, Bottom Line
Mentoring first-generation and low-income undergraduate students
2014 Volunteer Educator, Celebrate Hearing, Seahawks Hearing Awareness Event
2013, 2014 Workshop Leader, Expanding Your Horizons Workshop
Teaching Young Women in Science, Technology, Engineering, and Math
2011, 2013, 2015 Volunteer Educator, UW Brain Awareness Week
Teaching K-12 students about hearing and the brain
2009, 2010, 2011 Volunteer Educator, Woodstick, Hearing Protection Awareness Booth
2007 Guest Teacher for 8th Grade Science Course, UW Alternative Spring Break

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PUBLICATIONS IN REFEREED JOURNALS

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

PHD DISSERTATION

- Lewis, RM** (2016) "Defining *Atoh1* function and regulation in avian supporting cells during auditory hair cell regeneration", University of Washington.

CONFERENCE PRESENTATIONS

- Lewis RM**, Hume CR, Stone JS. *Atoh1* 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. *Atoh1* expression and function during auditory hair cell regeneration in post-hatch chickens. American Auditory Society. 2012.
- Lewis RM**, Hume CR, Stone JS. *Atoh1* expression and function during auditory hair cell regeneration in post-hatch chickens. Association for Research in Otolaryngology. 2012.
- Keller J, **Lewis R**, 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 R**, 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 R**, Keller J, Stone J. Bone Morphogenetic Proteins Antagonize Hair cell Differentiation during Avian Hair Cell Regeneration in Post-Hatch Chickens. American Auditory Society. 2015.
- Lewis R** & Spencer K. Executive Functions in Individuals with Parkinson's Disease: A Comparison of Two Measures. University of Washington Undergraduate Research Symposium. June 2008.

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PODIUM PRESENTATIONS

- Ototoxicity and Tumor Necrosis Factor alpha. Stankovic Lab Meeting, Massachusetts Eye and Ear. October 2016. May 2017.
- Electrical stimulation for the treatment of severe, chronic tinnitus. Stankovic Lab Meeting, Massachusetts Eye and Ear. January 2017.
- Defining *Atoh1* 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.
- Bone Morphogenetic Proteins Antagonize *Atoh1* Expression and Avian Hair Cell Regeneration. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. April 2015.
- Clinical Implications of Hair Cell Regeneration. Aural Rehabilitation Group Session, Speech and Hearing Sciences, University of Washington. September 2014.
- Avian Hair Cell Regeneration: The Interactions Between *Atoh1* and Bone Morphogenetic Proteins. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. January 2014.
- Inhibitors of differentiation during avian hair cell regeneration. Hair Cell Regeneration Meeting, University of Washington. February 2013.
- Avian Hair Cell Regeneration: The Interactions between *Atoh1*, Inhibitors of Differentiation, and Bone Morphogenetic Proteins. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. November 2012.
- Avian Hair Cell Regeneration: The Interactions Between *Atoh1* and Bone Morphogenetic Proteins. Rubel Lab Meeting, University of Washington. October 2012.
- The Role of *Atoh1* During Avian Auditory Hair Cell Regeneration. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. May 2012.
- Atoh1* promotes both mitotic and non-mitotic forms of regeneration. Auditory Neuroscience Retreat, University of Washington. May 2011, May 2012.
- The Role of *Atoh1* During Avian Auditory Hair Cell Regeneration. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. November 2011.
- The Role of *Atoh1* During Avian Auditory Hair Cell Regeneration. Auditory Neuroscience Training Grant Seminar, University of Washington. January 2011.
- The Role of *Atoh1* During Avian Auditory Hair Cell Regeneration. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. April 2011.
- The Role of *Atoh1* During Avian Auditory Hair Cell Regeneration. Rubel Lab Meeting, University of Washington. December 2010.
- The Role of *Atoh1* During Avian Auditory Hair Cell Regeneration. Doctoral Research Forum, Speech and Hearing Sciences, University of Washington. December 2010.

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CLINICAL TRAINING EXPERIENCES

Adult and Pediatric:

- *Adult and Pediatric Audiology Clinic* – Swedish Medical Center (9/2014 – 12/2014)

Adult:

- *Diagnostics, Cochlear Implants, Vestibular, Hearing Aid Technology Tinnitus Management* – Veterans Administration, Washington (6/2015 – 6/2016)
- *Diagnostics, Cochlear Implants, Vestibular, Hearing Aid Technology, Tinnitus Management* – Seattle Veterans Administration (12/2015 – 6/2016)
- *Diagnostics* – UW Speech and Hearing Clinic (SHC) (3/2009 – 6/2009)
- *Diagnostic and Hearing Aid Clinic* – UW SHC (9/2008 – 12/2008)
- (6/2009 – 8/2009)
- *Aural Rehabilitation Clinic* – UW SHC (1/2009 – 3/2009)
- *Diagnostics* – Harborview Medical Center (6/2011 – 8/2011)
- *Diagnostics, Hearing Aid Technology, Aural Rehabilitation* – UW Experience Aural Rehabilitation Project (6/2013)
- *Diagnostics, Vestibular Diagnostics* – Seattle Hearing and Balance (1/2014 – 3/2014)
- *Diagnostics, Hearing Aid Technology* – Harborview Medical Center (3/2015 – 6/2015)
- *Diagnostics, Hearing Aid Technology* – American Lake Veterans Administration (6/2015 – 12/2015)

Pediatric:

- *Diagnostics* – UW Center for Human Development and Disability (CHDD) (1/2010 – 3/2010)
- *Diagnostic and Hearing Aid Clinic* – UW CHDD (3/2010 – 6/2010)
- *Aural Rehabilitation Clinic* – Seattle Children's Hospital (6/2010 – 8/2010)
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Other:

- *Adult Speech Pathology Clinic* – UW SHC (9/2009 – 12/2009)
- *Adult Vestibular Clinic* – UW Medical Center (6/2010 – 8/2010)