

MELINDA C. ANDERSON, Ph.D., CCC-A  
Curriculum Vitae  
March 30, 2021

Institutional Address  
12631 E. 17<sup>th</sup> Avenue, Room 3001  
Mail Stop B205  
Aurora, CO 80045  
(303)724-9316  
Melinda.anderson@cuanschutz.edu

**Education**

2010	PhD, University of Colorado, Boulder, CO 80309 Hearing Science/ Audiology
2007	Certificate in Cognitive Science, University of Colorado, Boulder, CO 80309
2002	MS, Vanderbilt University, Nashville, TN 37212 Audiology
1999	BA, University of Florida, Gainesville, FL 32611 Communication Sciences and Disorders, Linguistics

**Positions**

2016-present	Assistant Professor, Department of Otolaryngology, University of Colorado School of Medicine, Denver, CO
2016-present	Director of Audiology, UCHHealth, Aurora, CO
2014-2016	Research Associate, Hearing Research Laboratory, University of Colorado, Boulder, CO
2014-2016	Instructor, Department of Speech, Language, and Hearing Sciences, University of Colorado, Boulder, CO
2010-2016	Clinical Audiologist, University of Colorado Hospital (UCH) Aurora, CO
2010-2016	Clinical Instructor, University of Colorado, School of Medicine Aurora, CO
2011-2014	Adjunct Faculty, Department of Speech, Language, and Hearing Sciences, University of Colorado, Boulder, CO
2005-2010	Research Assistant, Hearing Research Laboratory, University of Colorado, Boulder, CO
2007-2009	Clinical Audiologist, Boulder Medical Center Boulder, CO
2003-2004	Clinical Audiologist, Division of Audiology, Henry Ford Hospital Detroit, Michigan
2002-2003	Research Audiologist, US Army Aeromedical Research Laboratory: Aircrew Protection Division, Acoustics Team Fort Rucker, Alabama
2001-2002	Research Assistant, Dan Maddox Hearing Aid Research Lab,

**Peer-reviewed publications**

- Arehart, K., Chon, S., Harvey, L., **Anderson, M.**, Rallapalli, V., and Souza, P. (2021). A comparison of speech intelligibility and subjective quality with hearing aid processing in older adults with hearing loss, *in press, International Journal of Audiology*
- Lundberg, E., Chon, S.H., Kates, J., **Anderson, M.**, Arehart, K. (2020). The Type of Noise Influences Quality Ratings for Noisy Speech in Hearing Aid Users. *Journal of Speech, Language, and Hearing Research*, 63(12), 4300-4313.
- Lundberg, E. M., Strong, D., **Anderson, M.**, Kaizer, A. M., & Gubbels, S. (2020). Do Patients Benefit From a Cochlear Implant When They Qualify Only in the Presence of Background Noise?. *Otology & Neurotology: Official Publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*.
- Rallapalli, V., **Anderson, M.**, Kates, J., Sirow, L., Arehart, K., and Souza, P. (2019). Quantifying the range of signal modification in clinically fit hearing aids *accepted for publication in Ear and Hearing*
- Souza, P., Arehart, K., Schoof, T., **Anderson, M.**, Strori, D., & Balmert, L. (2019). Understanding Variability in Individual Response to Hearing Aid Signal Processing in Wearable Hearing Aids. *Ear and hearing*, 40(6), 1280-1292.
- Uhler, K.M., Gifford, R.H., Forster, J.E., **Anderson, M.**, Tierney, E., Claycomb, S.D., Werner, L.A. (2018). Refining stimulus parameters in assessing infant speech perception using Visual Reinforcement Infant Speech Discrimination in infants with and without hearing loss: Presentation level, *Journal of the American Academy of Audiology*, 29(9), 847-854.
- Anderson, M.**, Rallapalli, V., Schoof, T., Souza, P., & Arehart, K. (2018). The use of self-report measures to examine changes in perception in response to fittings using different signal processing parameters. *International journal of audiology*, 57(11), 809-815.
- Kates, J., Arehart, K., **Anderson, M.**, Muralimanohar, R., & Harvey, L. (2018). Using objective metrics to measure hearing aid performance. *Ear and hearing*, 39(6), 1165-1175.
- Anderson, M.**, Arehart, K., & Souza, P. (2018). Survey of Current Practice in the Fitting and Fine-Tuning of Common Signal-Processing Features in Hearing Aids for Adults. *Journal of the American Academy of Audiology*, 29(2), 118-124.
- Shen, J., **Anderson, M. C.**, Arehart, K. H., & Souza, P. E. (2016). Using Cognitive Screening Tests in Audiology. *American Journal of Audiology*, 25(4), 319-331.
- Croghan, N. B., Swanberg, A. M., **Anderson, M. C.**, & Arehart, K. H. (2016). Chosen Listening Levels for Music With and Without the Use of Hearing Aids. *American Journal of Audiology*, 25(3), 161-166.
- Uhler, K.M., **Anderson, M.**, Jenkins, H. (2016) Long-term outcomes data in patients following one year's use of a fully implantable Active Middle Ear Implant (AMEI). *Audiology and Neurotology*, 21, 105-112, doi: 10.1159/00044424.
- Souza, P., Arehart, K., Shen, J., **Anderson, M.**, Kates, J. (2015) Working memory and the intelligibility of hearing-aid processed speech. *Frontiers in Psychology*, 6:526, doi: 10.3389/fpsyg.2015.00526.

- Anderson, M.,** Arehart, K.H., and Kates, J.M. (2014). The effects of noise vocoding on speech quality perception. *Hearing Research* 309, 75-83.
- Arehart, K.H., Kates, J.M., **Anderson, M.,** and Moats, P. (2011), Determining perceived sound quality in a simulated hearing aid using the International Speech Test Signal. *Ear and Hearing*. 32, 533-535.
- Arehart, K., Kates, J., and **Anderson, M.,** (2011) The effects of noise, nonlinear, and linear filtering on perceived music quality. *International Journal of Audiology*, 50, 177-190.
- Arehart, K., Kates, J., and **Anderson, M.,** (2010) The effects of noise, nonlinear, and linear filtering on perceived speech quality. *Ear and Hearing*, 31, 420-436.
- Anderson, M.,** Arehart, K. H., and Kates, J. M. (2009). The Acoustic and Perceptual Effects of Series and Parallel Processing. *Eurasip Journal on Advances in Signal Processing*. doi: 619805, 10.1155/2009/619805
- Arehart, K. H., Kates, J. M., **Anderson, M.,** and Harvey, L. O. (2007). Effects of noise and distortion on speech quality judgments in normal-hearing and hearing-impaired listeners. *Journal of the Acoustical Society of America*, 122(2), 1150-1164.

### **Non-peer Reviewed Publications**

- Anderson, M.,** Rallapalli, V., Walker, K., Kaizer, A., and Uhler, K. (2020). Do infants with hearing loss listen like little adults?, *Canadian Audiologist*, 7(3).

### **Current Funding**

#### Human Subject Laboratory and Clinical Studies

NIH-NIDCD R01 DC017924-01A1 (Anderson, Klug, Tollin) 06/07/19 - 05/31/24  
\$628,017 3.6 Calendar months

*The contributions of age related changes in the sound localization pathway to central hearing loss*

The goal of this project is to combine a human subjects and animal model study, which will establish a tight link between behavioral listening performance, noninvasive auditory brain stem response (ABR) recordings, and measurements of subcellular mechanisms that may contribute to these changes.

Role: PI

NIH/NIDCD R01 DC015056-03 (Liebold) 8/1/2018 – 7/31/2021  
\$532,303 0.01 Calendar Months

*A test of children's English/Spanish speech perception in noise or speech maskers*

The goals of this study are to validate the use of a speech in noise test for Spanish and English-speaking children.

Role: Sub-award PI

Advanced Bionics, LLC AWD-191044 (Anderson) 11/01/2018 – 10/31/2023  
\$35,008 0.01 Calendar Months

*Evaluation of speech-in-noise performance in cochlear implant recipients using either a conventional hearing aid or a contralateral routing of signal (CROS) device on the contralateral ear*

The goals of this study are to determine how performance on a speech in noise task changes as the device on the non-implanted ear is varied.

Role: PI

Advanced Bionics, LLC AWD-190634 (Anderson)

7/1/2019 – 6/30/2024

\$14,995

0.01 Calendar Months

*The natural history of listening-related fatigue in adult cochlear implant (CI) users following initial and secondary CI activation*

The goals of the study are to establish how listening-related fatigue changes when an adult receives a first or second cochlear implant.

Role: PI

Retrospective Evaluations Using Clinical Data

Decibel Therapeutics 25A9871 (Anderson)

09/14/2020-06/30/2021

\$14,192

0.01 Calendar Months

*The Incidence and Severity of Ototoxicity in People Treated with Cisplatin Based Anti-Cancer Therapies*

This retrospective, longitudinal, non-therapeutic study is designed to define the incidence and severity of inner ear dysfunction (ototoxicity) in individuals who are receiving cisplatin-based anti-cancer therapies. Secondary objectives include determining whether risk factors (e.g., demographic, audiometric, or familial) for ototoxicity can be identified.

Role: PI

American Hearing Research Foundation (Baiduc)

01/01/2020 – 12/31/2021

\$45,000

0.01 Calendar Months

*Sex Differences in the Association between Hearing Loss and Cardiovascular Disease Risk Burden*

The goal of the study is to examine the effect of individual and aggregate CVD risk factors on hearing using electronic health records.

Role: Sub-award PI

Clinical Trials

Eloxx Pharmaceuticals

01/13/2021-01/12/2026

*EL-012, A Phase 2 Open Label Study to Evaluate the Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of Multiple Dose Levels of Subcutaneously Administered ELX- 02 in Patients with Cystic Fibrosis with at Least One G542X Allele*

The goal of this clinical trial is to evaluate the use of ELX-02 as a possible treatment for cystic fibrosis.

Role: Sub-award PI

Advanced Bionics, LLC

01/20/2020-01/19/2025

*Evaluation of AutoSense OS on a Naida CI M90 Sound Processor*

The goal of this clinical trial is to evaluate safety and efficacy of a system for the automatic classification of acoustic environments featured on a next generation cochlear implant sound processor.

Role: PI

## **Scientific Oral Presentations and Posters**

- Anderson, M.**, Blanchard, M. Dwyer, R., Firszt, J., Gifford, R., Holden, L., Iannuzzi, K., Morton, S., Nelson, M., Strong, D., Zlomke, S., Thode, S., Passmore, C., Galster, J. (2021). Clinical outcomes with a next generation sound processor, *accepted for presentation April 2021*, American Cochlear Implant Alliance (ACIA), virtual conference
- Anderson, M.**, Baiduc, R. (2021). Exploring Associations between Cardiovascular Disease Risk and Hearing Loss in a Clinical Population, *accepted for presentation April 2021*, American Academy of Audiology, virtual conference
- Sinnen, M., Dwenger, L., Casper, K., Walker, K., Greene, N., Kaizer, A., **Anderson, M.** (2020). Preliminary results on the relationship between spatial separation and age on a speech in noise task, American Academy of Audiology, April 2020, New Orleans, LA (*presentation not given due to conference cancellation re:COVID-19o pandemic*)
- Walker, K., Greene, N., Kaizer, A., **Anderson, M.** (2020). Preliminary Results: Effects of Noise and Location on Spatial Acuity, American Auditory Society, March 2020, Scottsdale, AZ
- Uhler, K., Greene, N., Walker, K., and **Anderson, M.** (2020). The relationship between response time and presentation level in infant speech discrimination: A methodological study. Association for Research in Otolaryngology, San Jose, CA
- Anderson, M.**, Arehart, K., Chon, S., Harvey, L., Kates, J., McNichols, E., Lundberg, E., Souza, P., Rallapalli, V. (2019). Effects of noise type on speech quality ratings in older adults with hearing loss. Paper presented at Aging and Speech Communication, Clearwater, FL
- Lundberg, E., Kaizer, A., and **Anderson, M.** (2019). Cochlear implant candidacy: Are patients qualifying under +5 dB SNR benefitting? Paper presented at Colorado Academy of Audiology, Breckenridge, CO
- O'Dell, A., Campos, L., Elam, S., Iannuzzi, K., Ochoa, J., Strong, D., Ramakrishnan, A., Agrawal, S., Kaizer, A., and **Anderson, M.** (2019) Evaluation of Speech-in-Noise Performance for Individuals Using a Cochlear Implant and a Conventional Hearing Aid or CROS Device, Paper presented at American Cochlear Implant Alliance, Hollywood, FL
- Campos, L., Mellen, J., Elam, S., Hynes, P., Iannuzzi, K., Ochoa, J., String, D., O'Dell, A., and **Anderson, M.** (2019). Developing a Clinical Protocol for Providing Adult Aural Rehabilitation for Cochlear Implant Recipients, Paper presented at American Cochlear Implant Alliance, Hollywood, FL
- Arehart, K., Kates, J., Chon, S., **Anderson, M.**, Souza, P., Rallapalli, V., and Harvey, L. (2019). Tradeoffs among intelligibility, quality and preference for hearing-aid processed speech, Paper to be presented at the American Auditory Society, Scottsdale, AZ
- Durkin, K., **Anderson, M.**, Souza, P., and Arehart, K. (2019). Comparison of hearing aid output from first fit to final fit in the clinical population, Paper presented at American Academy of Audiology, Columbus, OH
- Anderson, M.** (2019) Measuring signal modification in clinically-fit hearing aids. Paper presented at Ultimate Colorado Midwinter Meeting, Vail, CO.
- Anderson, M.** (2018) Hearing Aid Technology: Selecting the Best Hearing Aid for Your Patients with Verification and Validation of Hearing Aids. Paper presented at Hearing International, Ho Chi Minh City, Vietnam
- Anderson, M.**, Rallapalli, V., Kates, J., Souza, P., and Arehart, K. (2018). Evaluating the impact

- of methodology on calculating signal modification resulting from hearing aid signal processing, Paper presented at International Hearing Aid Research Conference, Tahoe City, CA
- Rallapalli, V., **Anderson, M.**, Kates, J., Sirow, L., Arehart, K., and Souza, P. (2018). Quantifying the range of signal modification in clinically-fit hearing aids. Paper presented at International Hearing Aid Research Conference, Tahoe City, CA
- Rallapalli, V., Welles, R., **Anderson, M.**, Arehart, K., and Souza, P. (2018). Hearing aid compression: Product vs. Prescription, Paper presented at American Academy of Audiology, Nashville, TN
- Anderson, M.**, Mowery, P., and Uhler, K. (2018). Relationship between personal hearing aid settings and infant speech discrimination, Paper presented at the American Auditory Society, Scottsdale, AZ
- Uhler, K., Mowery, P., and **Anderson, M.** (2018). The relationship between infant speech discrimination and hearing aid signal processing, Paper presented at Association for Research in Otolaryngology, San Diego, CA
- Anderson, M.** (2018) Using hearing aid metrics, Paper presented at Ultimate Colorado Midwinter Meeting, Vail, CO
- Anderson, M.**, Arehart, K., Schoof, T., Rallapalli, V., and Souza, P. (2017) Variability in hearing aid outcomes in older adults: Outcome measures from a clinical trial, Paper presented at Aging and Speech Communication, Tampa, FL.
- Mowery, P., **Anderson, M.**, and Uhler, K. (2017) The effects of wide dynamic range compression on hearing aid output for infant hearing aid users, Paper presented at Colorado Academy of Audiology Fall Conference, Denver, CO.
- Anderson, M.** and Arehart, K.H. (2017) Using cognitive screening tests in audiology, paper presented at Colorado Academy of Audiology Spring Connect and Learn, Denver, CO
- Anderson, M.** (2017) Cognitive Status and Hearing Aid Outcomes, Paper presented at Ultimate Colorado Midwinter Meeting, Vail, CO.
- Arehart, K.H., **Anderson, M.**, Kates, J.M., Muralimanohar, R.K., Souza, P.E. (2016) Quantitative benchmarks for the evaluation of signal processing in commercial hearing aids, Paper presented at International Hearing Aid Research Conference, Tahoe City, CA
- Souza, P.E., Schoof, T., **Anderson, M.**, and Arehart, K.H. (2016) Variability in hearing aid outcomes in older adults: Clinical trial design and preliminary results, Paper presented at International Hearing Aid Research Conference, Tahoe City, CA
- Anderson, M.**, Arehart, K.H., and Souza, P.E. (2016) Survey of current practice in the fitting of advanced signal processing algorithms, Paper presented at Audiology Now, American Academy of Audiology, Phoenix, AZ
- Jenkins, H.A., **Anderson, M.**, Tollin, D. & Uhler, K., (2015) Correlation of Subjective and Objective Benefit in Implantable Hearing Aids, Paper presented at 10th Asian Pacific Symposium on Cochlear Implants and Related Devices, Beijing, China
- Shen, J., Souza, P., **Anderson, M.**, Arehart, K., Kates, J., Muralimanohar, R.K. (2015) Can cognitive screening tests explain recognition of distorted speech? Paper presented at American Auditory Society, Scottsdale, AZ.
- Anderson, M.** (2015) Managing the patient with tinnitus in a multidisciplinary setting. Paper presented at Ultimate Colorado Midwinter Meeting, Vail, CO.
- Souza, P., Arehart, K. Shen, J., Kates, J., Muralimanohar, R. K., **Anderson, M.** (2014)

- Individual sensitivity to distortion from combined signal processing. Paper presented at the International Hearing Aid Research Conference, Tahoe City, CA.
- Kates, J.M., Arehart, K.H., Souza, P.E., **Anderson, M.**, Muralimanohar, R.K., and Portnuff, C.D. (2014). Quantifying processing interactions in hearing aids. Paper presented at American Auditory Society, Scottsdale, AZ.
- Anderson, M.**, Bock, K., and Bell-Lemkuhler, B. (2014). CROS and BiCROS hearing aids in single-sided deafness. Paper presented at Ultimate Colorado Midwinter meeting, Vail, CO.
- Anderson, M.** and Uhler, K. (2014). Is there a difference in speech perception and patient satisfaction for individuals who use middle ear implants and traditional hearing aids? Paper presented at Ultimate Colorado Midwinter meeting, Vail, CO.
- Anderson, M.** and Uhler, K. (2013). Effects of age on inter-patient variability in individuals with hearing loss. Paper presented at Ultimate Colorado Midwinter meeting, Vail, CO.
- Anderson, M.** (2013). Updates in tinnitus management and treatment. Paper presented at Building Communion Bridges Community Workshop, University of Colorado Hospital, Aurora, CO.
- Anderson, M.** (2012). Anatomy and physiology of the auditory system: the relationship to tinnitus. Paper presented at Denver Tinnitus Support Group, Lakewood, CO.
- Anderson, M.** and Uhler, K. (2012). Objective and subjective benefit of conventional hearing aids and implantable devices. Paper presented at Ultimate Colorado Midwinter Meeting, Vail, CO.
- Uhler, K., Bell-Lehmkuhler, B., **Anderson, M.**, and Jenkins, H. (2011). Correlation of objective and subjective benefit in implantable hearing aids. Paper presented at the American Auditory Society, Scottsdale, AZ.
- Anderson, M.** (2011). Sound quality in hearing aids. Paper presented at Ultimate Colorado Midwinter Meeting, Vail, CO.
- Anderson, M.** (2010). Updates in hearing aid technology, Building Communion Bridges Community Workshop, University of Colorado Hospital, Aurora, CO.
- Arehart, K.H., Kates, J.M., **Anderson, M.**, and Moats, P.M.K. (2010). Sound quality ratings for the International Speech Test Signal (ISTS). Paper presented at the International Hearing Aid Research Conference, Tahoe City, CA.
- Anderson, M.**, Arehart, K.H., and Kates, J.M. (2010). The role of temporal fine structure in sound quality perception. Paper presented at the International Hearing Aid Research Conference, Tahoe City, CA.
- Arehart, K.H., Croghan, N., **Anderson, M.**, and Muralimanohar, R.K. (2009). Effects of age on melody and timbre perception in simulations of electro-acoustic and cochlear-implant hearing. Paper presented at the Conference on Aging and Speech Communication, Indiana University, Bloomington, IN.
- Miller, C., Souza, P., Arehart, K.H., and **Anderson, M.** (2009). Objective and subjective speech perception in noise in older adults. Paper presented at the Conference on Aging and Speech Communication, Indiana University, Bloomington, IN.
- Arehart, K.H., Croghan, N.B.H., **Anderson, M.**, and Muralimanohar, R.K. (2009). Music perception using simulated cochlear implant and electro-acoustic systems: Effects of age and processing condition. Paper presented at the Colorado Academy of Audiology, Breckenridge, CO.
- Arehart, K.H., Kates, J.M., and **Anderson, M.** (2009). Quality judgments for music signals by

- normal-hearing and hearing-impaired listeners. Paper presented at the 157<sup>th</sup> Meeting of the Acoustical Society of America, Portland, OR.
- Anderson, M.**, Arehart, K.H., & Kates, J.M. (2008). Digital signal processing algorithms in hearing aids: Parallel vs. series. Paper presented at the International Hearing Aid Research Conference, Tahoe City, CA.
- Arehart, K.H., Kates, J.M., **Anderson, M.**, & Harvey, L. (2008). Effects of linear, nonlinear, and combined linear and nonlinear distortion on perceived speech quality. Paper presented at the International Hearing Aid Research Conference, Tahoe City, CA.
- Anderson, M.** (2006). Teaching science to undergraduate non-majors, University of Colorado Graduate Teacher Program Workshop, Boulder, CO.
- Kates, J.M., Arehart, K.H., Harvey, L., and **Anderson, M.** (2006). Predictions of speech quality under conditions of noise and distortion. Paper presented at the 151<sup>st</sup> Meeting of the Acoustical Society of America, Providence, RI.

## **Teaching**

### *Classroom:*

#### Graduate Courses as Instructor of Record:

- Advanced Topics in Amplification
- Instrumentation and Calibration
- Noise Management and Prevention of Noise Induced Hearing Loss
- Fundamentals of Amplification
- Clinical Practicum

#### Undergraduate Courses as Instructor of Record:

- Hearing Science
- Science of Human Communication

#### Guest Lecturer:

- Public Health in Audiology
- Medical Bases of Hearing and Balance Disorders
- Aural Rehabilitation
- Multicultural Considerations in Audiology
- Counseling in Audiology

#### Otolaryngology Resident Training:

- Amplification for adults
- Psychoacoustics

### *Mentoring:*

#### Clinical:

- Graduate audiology students, 1<sup>st</sup>-4<sup>th</sup> year (up to 15 students per academic year)
- T32 Clinical Mentor to Neuroscience PhD candidates

#### Research:

- Graduate audiology students (clinical research and laboratory research)
- Committee member, graduate AuD capstone projects, PhD candidates in audiology/ hearing science and neurosciences
- T32 Research Mentor for audiology/ hearing science PhD Candidates



## Service

2021-present	Editorial Board Member, American Journal of Audiology
2020-present	American Academy of Audiology, Research Initiatives committee member
2020-present	Co-Chair planning committee Osseo 2023, to be hosted by CUSOM Otolaryngology
2014-present	Member of the AuD committee in the Speech, Language, Hearing Sciences Department at University of Colorado, Boulder
2010-present	Ad-hoc reviewer for Ear and Hearing; International Journal of Audiology; Journal of the American Academy of Audiology; PLOS one; Annals of Otolology, Rhinology, and Laryngology, American Journal of Audiology
2019	Validation Committee for the <i>Certificate- Precepting</i> , American Board of Audiology
2013-2015	Vice President of Education, Colorado Academy of Audiology
2007-2008	Student Member, Travel and Research Award Committee, Institute of Cognitive Science, University of Colorado, Boulder

## Membership in Professional Societies

2014-present	Member, American Auditory Society
2004-present	Fellow, Colorado Academy of Audiology
2002-present	Fellow, American Academy of Audiology
2002-present	Member, American Speech, Language, Hearing Association
2000-2001	Student member, American Academy of Audiology

## Certification and Licensure

2017-present	Certificate Holder- Audiology Preceptor (CH-AP)
2006-present	Colorado state license (AUD-470)
2004-present	Clinical Certificate of Competence in Audiology (CCC-A) American Speech, Language, and Hearing Association