

University of Nebraska-Lincoln
Dept. of Special Education and
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Curriculum Vita
Michelle L. Hughes
Ph.D., CCC-A

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EDUCATION

- May 2003 **Doctor of Philosophy** in Hearing Science, University of Iowa
Dissertation adviser: Paul J. Abbas, Ph.D.
- Dec 1995 **Master of Arts** in Audiology, University of Iowa
- Dec 1992 **Bachelor of Science in Education** in Speech Pathology and Audiology, University of
Nebraska-Lincoln

WORK EXPERIENCE

- Aug 2018–present **University of Nebraska-Lincoln, Department of Special Education and
Communication Disorders**
- Professor, Aug 2021—present
 - Associate Professor, Aug 2018—Aug 2021
 - Director, Cochlear Implant Research Laboratory
- June 2003–July 2018 **Boys Town National Research Hospital**
- Senior Scientist and Director, Cochlear Implant Research Laboratory; April
2015–July 2018
 - Coordinator, Cochlear Implant Program; June 2003–April 2015
- Aug 2005–May 2015 **University of Nebraska-Lincoln, Department of Special Education and
Communication Disorders**
- Adjunct Associate Professor, Jan 2013–May 2015
 - Adjunct Assistant Professor, Aug 2005–Jan 2013
- Jan 1996–May 2003 **University of Iowa Hospitals and Clinics, Dept. of Otolaryngology Head &
Neck Surgery**
- Research Assistant III, Cochlear Implant Electrophysiology Lab; Aug 1997–
May 2003
 - Clinical Fellow in Audiology (CFY-A), Jan 1996–Aug 1997

RESEARCH SUPPORT

CURRENT

RDAR Pilot Grant, 3/1/2021 – 2/28/2022 (no-cost ext. to 2/28/2023)

Project Title: Feasibility of assessing the effects of substance use on auditory and vestibular function

Co-Principal Investigators: Amanda I. Rodriguez, Ph.D. and Michelle L. Hughes, Ph.D.

Funding Source: UNL Rural Drug Addiction Research Center (through Nebraska Tobacco Settlement
Biomedical Research Development Fund and supported by NIGMS P20GM130461)

Award Amount: \$25,000

R21 Grant, 07/01/2019 – 06/30/2022 (no-cost ext. to 06/30/2023)

Project Title: Neural Predictors of speech perception outcomes in adults with cochlear implants

Principal Investigator: Yingying Wang, Ph.D.

Grant Number: R21 DC018110
Funding Source: NIH, NIDCD
Role: Co-investigator
Award Amount: \$300,000

COMPLETED

R01 Grant, 2/5/2014-1/31/2019 (no-cost ext. to 1/31/2022)

Project Title: Telepractice for cochlear implants
Principal Investigator: Michelle L. Hughes, Ph.D.
Grant Number: R01 DC013281-08
Funding Source: NIH, NIDCD
Award Amount: \$1,062,500

R01 Grant, 2/6/2009-7/31/2021 (competitive renewal in 2015; no-cost ext. to 7/31/2021)

Project Title: Physiology as a potential predictor of perception in cochlear implants
Principal Investigator: Michelle L. Hughes, Ph.D.
Grant Number: R01 DC009595
Funding Source: NIH, NIDCD
Award Amount (1st cycle, 5 years): \$1,000,000
Award Amount (2nd cycle, 3 years): \$785,000

T35 Grant, 4/1/2012-3/31/2022

Project Title: Short-Term Research Training for AuD Students
Program Director: Michelle L. Hughes, Ph.D. (until July 1, 2018)
Grant Number: T35 DC 008757
Funding Source: NIH, NIDCD
Award Amount (3rd cycle; 5 years): \$172,350

Centers of Biomedical Research Excellence (CoBRE) Grant, 5/15/2014-3/31/2019

Project Title: Center for Perception and Communication in Children
Program Director: Walt Jesteadt, Ph.D.
Grant Number: P20 GM109023
Funding Source: NIH, NIGMS
Role: Internal Mentor (5/15/2014–4/1/2017), Core A: Administration
Award Amount: \$7,852,545

R01 Recovery Act Administrative Supplement, July 2009-2011

Project Title: Physiology as a potential predictor of perception in cochlear implants
Principal Investigator: Michelle L. Hughes, Ph.D.
Grant Number: 3R01 DC009595-01A1S1
Funding Source: NIH, NIDCD
Award Amount: \$100,000

R03 Grant, April 2005-2008

Project Title: Channel Interaction in Cochlear Implants
Principal Investigator: Michelle L. Hughes, Ph.D.
Grant Number: R03 DC007017
Funding Source: NIH, NIDCD
Award Amount: \$150,000

NIH Loan Repayment Program, Oct 2004 – July 2008 (renewed Aug 2006)

Project Title: Channel Interaction in Cochlear Implants
Principal Investigator: Michelle L. Hughes, Ph.D.
Grant Number: L30 DC006866
Funding Source: NIH, NIDCD

Boys Town National Research Hospital, June 2003-2006

Project Title: Electrophysiologic and Behavioral Measures in CI Users

Principal Investigator: Michelle L. Hughes, Ph.D.

Grant Number: Not applicable

Funding Source: Boys Town National Research Hospital (start-up funds)

NIH Program Project Grant, 2001-2006

Project Title: Iowa Cochlear Implant Project IV

Principal Director: Bruce J. Gantz, M.D.

Grant Number: P50 DC00242

Funding Source: NIH, NIDCD

Role: Research Assistant/Co-Investigator for Electrophysiology Sub-Project until May 2003

NIH Program Project Grant, 1995-2000

Project Title: Iowa Cochlear Implant Project III

Principal Director: Bruce J. Gantz, M.D.

Grant Number: P50 DC00242

Funding Source: NIH, NIDCD

Role: Research Assistant for Electrophysiology Sub-Project

RESEARCH

PAPERS IN PROGRESS

(*mentored professional; **mentored student)

- 1.) **Hughes ML.** ECAP polarity sensitivity, refractory-recovery, and multi-pulse integration as potential indices of neural health in cochlear implant recipients. *Hearing Research*. In revision.
- 2.) **Graves E, **Sajjadi A, & **Hughes ML.** A comparison of Montreal Cognitive Assessment scores among individuals with normal hearing and cochlear implants. *Ear and Hearing*. Under review.
- 3.) Rodriguez AI, **Hughes ML,** & Zoucha K. The effects of substance misuse on auditory and vestibular function: A review. *Ear and Hearing*. In revision.

PEER-REVIEWED RESEARCH PUBLICATIONS

(*mentored professional; **mentored student)

- 1.) **Premkumar PK & **Hughes ML.** An overview of telepractice applications for comprehensive cochlear implant service delivery. *ASHA Perspectives Special Interest Group 18* (invited). In press.
- 2.) **Hughes ML,** Rodriguez AI, Hatch J, & Zoucha K (2022). Hearing and vestibular loss with misuse of opioids and illicit drugs: A review of the literature. *Audiology and Neurotology*, 27, 271-281. <https://doi.org/10.1159/000521965> [PMID: N/A, not NIH funded]
- 3.) **Hughes ML** (2022). Characterizing polarity sensitivity in cochlear implant recipients: Demographic effects and potential implications for estimating neural health. *Journal of the Association for Research in Otolaryngology*, 23, 301-318. DOI: <https://doi.org/10.1007/s10162-021-00824-0>
- 4.) Chen C, Stein AL, **Hughes ML,** Morris HR, Litvak LM & Zeitler DM (2021). Testing speech perception with cochlear implants through digital audio streaming in a virtual sound booth: A feasibility study. *Journal of the American Academy of Audiology*, 32(4), 219-228. DOI: 10.1055/s-0041-1722990. [PMID: N/A, not NIH funded]

- 5.) **Spitzer ER, Choi S, & **Hughes ML** (2019). The effect of stimulus polarity on the relation between pitch ranking and ECAP spread of excitation in cochlear implant users. *Journal of the Association for Research in Otolaryngology*, 20(3), 279-290. [PMID: PMC6513951]
- 6.) *Sevier JD, Choi S, & **Hughes ML** (2019). Use of direct-connect for remote speech-perception testing in cochlear implants. *Ear and Hearing*, 40(5), 1162-1173. [PMID: PMC9165643]
- 7.) **Hughes ML**, Sevier JD, & Choi S. (2018). Techniques for remotely programming children with cochlear implants using pediatric audiological methods via telepractice. *American Journal of Audiology*, 27, 385-390. [PMID: PMC6437707]
- 8.) **Hughes ML**, Goehring JL, Sevier JD, & Choi S. (2018). Measuring sound-processor threshold levels for pediatric cochlear implant recipients using visual reinforcement audiometry via telepractice. *Journal of Speech, Language, and Hearing Research*, 61, 2115-2125. [PMID: PMC6198919]
- 9.) **Hughes ML**, Choi S, & Glickman E (2018). What can stimulus polarity and interphase gap tell us about auditory nerve function in cochlear-implant recipients? *Hearing Research*, 359, 50-63. [PMID: PMC5809247]
- 10.) Moeller MP, Stille LJ, **Hughes ML**, & Lusk RP (2018). Perceived improvements and challenges following sequential bilateral cochlear implantation in children and adults. *Cochlear Implants International*, 19(2), 72-87. [PMID: N/A, not NIH funded]
- 11.) **Hughes ML** & Laurello S (2017). Effect of stimulus level on the temporal response properties of the auditory nerve in cochlear implants. *Hearing Research*, 351, 116-129. [PMID: PMC5560769]
- 12.) **Spitzer ER & **Hughes ML** (2017). Effect of stimulus polarity on physiological spread of excitation in cochlear implants. *Journal of the American Academy of Audiology*, 28, 786-798. [PMID: PMC5657495]
- 13.) *Goehring JL & **Hughes ML** (2017). Measuring sound-processor threshold levels for pediatric cochlear implant recipients using conditioned play audiometry via telepractice. *Journal of Speech, Language, and Hearing Research*, 60(3), 732-740. [PMID: PMC28257529]
- 14.) **Hughes ML**, Goehring JL, & Baudhuin JL (2017). Effects of stimulus polarity and artifact reduction method on the electrically evoked compound action potential. *Ear and Hearing*, 38(3), 332-343. [PMID: PMC5404966]
- 15.) **Hughes ML**, Goehring JL, Baudhuin JL, & Schmid KK. (2016). Effects of stimulus level and rate on psychophysical thresholds for interleaved pulse trains in cochlear implants. *Journal of the Acoustical Society of America*, 140(4), 2297-2311. [PMID: PMC27794318]
- 16.) *Baudhuin JL, **Hughes ML**, & Goehring JL (2016). A comparison of alternating polarity and forward masking artifact-reduction methods to resolve the electrically evoked compound action potential. *Ear and Hearing*, 37(4), e247-e255. [PMCID: PMC4925180]
- 17.) **Hughes ML**, Baudhuin JL, & Goehring JL (2015). Effect of electrode impedance on spread of excitation and pitch perception using electrically coupled "dual-electrode" stimulation. *Ear and Hearing*, 36(2), e50-56. [PMCID: PMC4336631]
- 18.) *Goehring JL, Neff DL, Baudhuin JL, & **Hughes ML** (2014). Pitch ranking, electrode discrimination, and physiological spread of excitation using current steering in cochlear implants. *Journal of the Acoustical Society of America*, 136(6), 3159-3171. [PMCID: PMC4257956]
- 19.) **Hughes ML**, Baudhuin JL, & Goehring JL (2014). The relation between auditory-nerve temporal responses and perceptual rate integration in cochlear implants. *Hearing Research*, 316, 44-56. [PMCID: PMC4194221]

- 20.) *Goehring JL, Neff DL, Baudhuin JL, & **Hughes ML** (2014). Pitch ranking, electrode discrimination, and physiological spread-of-excitation using Cochlear's dual-electrode mode. *Journal of the Acoustical Society of America*, 136(2), 715-727. [PMCID: PMC4144258]
- 21.) **Hughes ML**, Neff DL, Simmons JL, & Moeller MP (2014). Performance outcomes for borderline cochlear implant recipients with substantial preoperative residual hearing. *Otology & Neurotology*, 35(8), 1373-1384. [Public Access Compliance - N/A, not NIH-funded research]
- 22.) **Hughes ML**, Stille LJ, Baudhuin JL, & Goehring JL (2013). ECAP spread of excitation with virtual channels and physical electrodes. *Hearing Research*, 306, 93-103. [PMCID: PMC3951167]
- 23.) **Bournique JL, **Hughes ML**, Baudhuin JL & Goehring JL (2013). Effect of ECAP-based choice of stimulation rate on speech-perception performance. *Ear and Hearing*, 34(4), 437-446. [PMCID: PMC3626760]
- 24.) *Goehring JL, **Hughes ML**, Baudhuin JL, & Lusk RP (2013). How well do cochlear implant intraoperative impedance measures predict postoperative electrode function? *Otology & Neurotology*, 34(2), 239-244. [PMCID: PMC3548045]
- 25.) **Glassman EK & **Hughes ML** (2013). Determining electrically evoked compound action potential thresholds: A comparison of computer versus human analysis methods. *Ear and Hearing*, 34(1), 96-109. [PMCID: PMC3511653]
- 26.) *Goehring JL, **Hughes ML**, Baudhuin JL, Valente DL, McCreery RW, Diaz GR, Sanford T, & Harpster R. (2012). The effect of technology and testing environment on speech perception using telehealth with cochlear implant recipients. *Journal of Speech, Language, and Hearing Research*, 55(5), 1373-1386. [PMCID: PMC3474600]
- 27.) **Hughes ML**, Goehring JL, Baudhuin JL, Diaz GR, Sanford T, Harpster R, & Valente DL (2012). Use of telehealth for research and clinical measures in cochlear implant recipients: A validation study. *Journal of Speech, Language, and Hearing Research*, 55, 1112-1127. [PMCID: PMC3462493]
- 28.) **Hughes ML**, Castioni EE, Goehring JL, & Baudhuin JL (2012). Temporal response properties of the auditory nerve: Data from human cochlear-implant recipients. *Hearing Research*, 285, 46-57. [PMCID: PMC3299843]
- 29.) Wiley S, Meinzen-Derr J, Grether S, Choo DI, **Hughes ML** (2012). Longitudinal functional performance among children with cochlear implants and disabilities: A prospective study using the Pediatric Evaluation of Disability Inventory. *International Journal of Pediatric Otorhinolaryngology*, 76, 693-697. [Public Access Compliance - N/A, not NIH-Funded research]
- 30.) **Hughes ML** & Goulson AM (2011). Electrically evoked compound action potential measures for virtual channels versus physical electrodes. *Ear and Hearing*, 32, 323-330. [PMCID: PMC3085936]
- 31.) **Hughes ML** & Stille LJ (2010). Effect of stimulus and recording parameters on spatial spread of excitation and masking patterns obtained with the electrically evoked compound action potential in cochlear implants. *Ear and Hearing*, 31 (5), 679-692. [PMCID: PMC2932804]
- 32.) Saoji AA, Litvak LM & **Hughes ML** (2009). Excitation patterns of simultaneous and sequential dual electrode stimulation in cochlear implant recipients. *Ear and Hearing*, 30 (5), 559-567. [Public Access Compliance - N/A, not NIH-funded research]
- 33.) **Hughes ML** & Stille LJ (2009). Psychophysical and physiological measures of electrical-field interaction in cochlear implants. *Journal of the Acoustical Society of America*, 125 (1), 247-260. [PMCID: PMC2633105]

- 34.) **Hughes ML** (2008). A re-evaluation of the relation between physiological channel interaction and electrode pitch ranking in cochlear implants. *Journal of the Acoustical Society of America*, 124 (5), 2711-2714. [PMCID: PMC2596999]
- 35.) **Hughes ML** & Stille LJ. (2008). Psychophysical versus physiological spatial forward masking and the relation to speech perception in cochlear implants. *Ear and Hearing*, 29 (3), 435-452. [PMCID: PMC2467511]
- 36.) **Hughes ML** & Abbas PJ (2006). The relation between electrophysiologic channel interaction and electrode pitch ranking in cochlear implant recipients. *Journal of the Acoustical Society of America*, 119 (3), 1527-1537.
- 37.) **Hughes ML** & Abbas PJ (2006). Electrophysiologic channel interaction, electrode pitch ranking, and behavioral threshold in straight versus perimodiolar cochlear implant electrode arrays. *Journal of the Acoustical Society of America*, 119 (3), 1538-1547.
- 38.) **Hughes ML**, Brown CJ, & Abbas PJ. (2004). Sensitivity and specificity of averaged electrode voltage (AEV) measures in cochlear implant recipients. *Ear and Hearing*, 25, 1-16.
- 39.) Abbas PJ, **Hughes ML**, Brown CJ, Miller CA, & South H. (2004). Channel interaction in cochlear implant users evaluated using the electrically evoked compound action potential. *Audiology and Neurotology*, 9(4), 203-213.
- 40.) Etlar CP, Abbas PJ, **Hughes ML**, Brown CJ, Dunn SM, Zubrod LJ, & Van Voorst TL (2004). Comparison of psychophysical and electrophysiologic measures of channel interaction. *International Congress Series*, 1273, 44-47.
- 41.) Turner C, Mehr M, **Hughes M**, Brown C, & Abbas P (2002). Within-subject predictors of speech recognition in cochlear implants: A null result. *Acoustics Research Letters Online (Acoustical Society of America)*, 3(3), 95-100.
- 42.) Gantz BJ, Tyler RS, Rubinstein JT, Wolaver A, Lowder M, Abbas P, Brown C, **Hughes M**, & Preece JP (2002). Binaural cochlear implants placed during the same operation. *Otology & Neurotology*, 23, 169-180.
- 43.) **Hughes ML**, Vander Werff KR, Brown CJ, Abbas PJ, Kelsay DMR, Teagle HFB, & Lowder MW. (2001). A longitudinal study of electrode impedence, EAP, and behavioral measures in Nucleus 24 cochlear implant users. *Ear and Hearing*, 22, 471-486.
- 44.) **Hughes ML**, Brown CJ, Abbas PJ, Wolaver AA, & Gervais JP (2000). Comparison of EAP thresholds to MAP levels in the Nucleus CI24M cochlear implant: Data from children. *Ear and Hearing*, 21, 164-174.
- 45.) Brown CJ, **Hughes ML**, Luk B, Abbas PJ, Wolaver AA, & Gervais JP (2000). The relationship between EAP and EABR thresholds and levels used to program the Nucleus CI24M speech processor: Data from adults. *Ear and Hearing*, 21, 151-163.
- 46.) **Hughes ML**, Abbas PJ, Brown CJ, & Gantz BJ (2000). Using electrically evoked compound action potential thresholds to facilitate creating MAPs for children with the Nucleus CI24M. In Kim CS, Chang SO & Lim D (eds.), Updates in Cochlear Implantation: The 2nd Congress of Asia Pacific Symposium on Cochlear Implant and Related Sciences, Seoul, April 1999. *Advances in Oto-Rhino-Laryngology, Basel, Karger*, 57, 260-265.
- 47.) Abbas PJ, Brown CJ, **Hughes ML**, Gantz BJ, Wolaver AA, Gervais JP, & Hong SH (2000). Electrically evoked compound action potentials recorded from subjects who use the Nucleus CI24M device. *Annals of Otology, Rhinology and Laryngology*, 109:12 (Suppl. 185), 6-9.

- 48.) Abbas PJ, Brown CJ, Shallop JK, Firszt JB, **Hughes ML**, Hong SH, & Staller SJ (1999). Summary of results using the Nucleus CI24M implant to record the electrically evoked compound action potential (EAP). *Ear and Hearing*, 20, 45-59.
- 49.) Brown CJ, **Hughes ML**, Lopez SM, & Abbas PJ (1999). Relationship Between EABR Thresholds and Levels Used to Program the Clarion Speech Processor. *Annals of Otology, Rhinology and Laryngology*, 108:4 (Suppl 177), 50-57.

BOOK

Hughes ML (2012). *Objective Measures in Cochlear Implants*. San Diego: Plural Publishing.

BOOK CHAPTER

Hughes ML, He S. (2020). Electrophysiological testing for cochlear implants and auditory brainstem implants. In Haynes et al. (Eds.) *Cochlear Implants: From Principles to Practice*. JP Medical Inc: Philadelphia, PA.

INVITED PUBLICATIONS

(*mentored professional)

- 1.) Hughes ML, Goehring JL, Miller MK, & Robinson SN. (2016). Pediatric cochlear implant mapping via telepractice. *ASHA SIG 18 Perspectives on Telepractice*, 1(1), 12-18.
- 2.) *Goehring JL, Hughes ML, & Baudhuin, JL (2012). Evaluating the feasibility of using remote technology for cochlear implants. *The Volta Review*, 112(3), 255-265. [PMCID: PMC4160841]
- 3.) Hughes ML (2012). Receiving and maintaining a cochlear implant: What Nurse Life Care Planners need to know. *Journal of Nurse Life Care Planning*, 12(2), 618-630.
- 4.) Hughes ML (2010). Fundamentals of clinical ECAP measures in cochlear implants, Part 1: Use of the ECAP in speech processor programming (2nd Ed.). *Audiology Online*, November 8, 2010, Article 2347. Retrieved November 8, 2010 from http://www.audiologyonline.com/articles/article_detail.asp?article_id=2347.
- 5.) Hughes ML (2006). Fundamentals of clinical ECAP measures in cochlear implants, Part 2: Measurement techniques and tips. *Audiology Online*, November 6, 2006, Article 1717. Retrieved November 6, 2006 from the Articles Archive on <http://www.audiologyonline.com>.
- 6.) Hughes ML. (2006). Fundamentals of clinical ECAP measures in cochlear implants, Part 1: Use of the ECAP in speech processor programming. *Audiology Online*, April 10, 2006, Article 1569. Retrieved April 10, 2006 from the Articles Archive on <http://www.audiologyonline.com>

PROCEEDINGS, ARTICLES, AND EDITORIALS

- (1) Jawad M, Soleimanifar S, Hughes ML, & Aronoff JM (2022). Investigating the use of spread of excitation as a measure of sensitivity to interaural asymmetry. Proceedings of the 24th International Congress on Acoustics.
- (2) Preminger JE, Laplante-Levesque A, Saunders GH, & Hughes ML (2018). Internet and Audiology: A review of the Third International Meeting. *American Journal of Audiology*, 27, 373-375.
- (3) Aronoff J & Hughes ML. (2016). Editorial: Binaural Hearing with Cochlear Implants for Bilateral, Bimodal, and Single-Sided Deafness Patients. *Ear & Hearing*, 37(3), 247.

- (4) Thomas RJ, Buchman C, Eisenberg L, Henderson L, He S, Firszt J, Francis H, Dunn C, Sladen D, Arndt S, May B, Zeitler D, Niparko JK, Emmett S, Tucci D, Chen J, McConkey RA, Schwefler E, Geers A, Lederberg A, Hayes H, Hughes M, Bierer J, Schafer E, Sorkin D, Kozma-Spytek L & Childress T. (2016). Proceedings of the Annual Symposium of the American Cochlear Implant Alliance. *Cochlear. Implants. Int.* 1-27.
- (5) Hughes ML. (2014). Telepractice for cochlear implant follow-up? Yes! *ASHA Leader*, July 2014, p. 39. (Invited)
- (6) Hughes ML. (2014). Validation of audiological measures via telepractice for cochlear implants. *Cochlear Implants International*, 15(5), 297-298. (Abstract)
- (7) Hughes ML, Goehring JL, Baudhuin JL, Sanford T, Harpster R (2011). A validity assessment of telehealth for clinical and research measures in CIs. *International Journal of Pediatric Otorhinolaryngology*, 75 (Suppl. 1), p. 50. (Abstract)
- (8) Hughes ML & Glassman EK (2011). A comparison of computer versus human methods of ECAP threshold determination. *International Journal of Pediatric Otorhinolaryngology*, 75 (Suppl. 1), p. 94. (Abstract)
- (9) Hughes ML & Stille LJ (2007). Channel interaction patterns with simultaneous stimulation: psychophysical and physiological measures. In "Auditory Research Bulletin", Advanced Bionics: Valencia, CA, pp. 70-71. (Invited paper)
- (10) Hughes ML (2006). What early interventionists need to know about cochlear implants. American Association for Home-Based Early Interventionists News Exchange, vol. 11, no. 3, Fall 2006. (Invited paper)
- (11) Hughes ML, Stille LJ & Barrow KR (2005). Psychophysical versus physiologic forward masking in cochlear implants. In "Auditory Research Bulletin", Advanced Bionics: Valencia, CA, pp. 80-81. (Invited paper)
- (12) Etler CP, Abbas PJ, Hughes ML, Brown CJ, Dunn SM, Zubrod LJ, & Van Voorst TL (2004). Comparison of psychophysical and electrophysiologic measures of channel interaction. In R. Miyamoto (Ed.) "Cochlear Implants: Proceedings of the VIII International Cochlear Implant Conference", International Congress Series vol. 1273, Elsevier, 44-47.
- (13) Hughes ML, Brown CJ & Abbas PJ. (2003). Characteristics of the electrically evoked compound action potential (ECAP) and clinical applications. In "Cochlear Collaborative Research Report", Cochlear Ltd: Melbourne, Australia, pp. 32-33. (Invited paper)
- (14) Brown CJ & Hughes, ML (2000). Neural Response Telemetry (NRT): Part Two. *Nucleus News*, Summer Issue. (Invited paper)

PODIUM PRESENTATIONS

(Boldface indicates speaker)

Invited Presentations (National and International Conferences):

- 1.) **Hughes ML, Robinson SN, & Erdman, SA.** "Aural rehabilitation via telepractice for adults with cochlear implants." Short course, American Speech Language Hearing Association Convention, Orlando, FL, Nov. 23, 2019
- 2.) **Hughes ML & Robinson SN.** "Telepractice for cochlear implants." 24th Annual Appalachian Spring Conference, Mountain Home VA, Johnson City, Tennessee, June 15 – 16, 2017.

- 3.) **Hughes ML**¹, Glickman E, Goehring JL. "What can stimulus polarity and interphase gap tell us about auditory nerve function?" CI2015 Conference of the American Cochlear Implant Alliance, Washington, D.C., October 15 – 17, 2015. (¹Session moderator.)
- 4.) **Hughes ML**, Goehring JL, Baudhuin JL, Robinson SN, Scheperle RA. "Telepractice for cochlear implants." Special Interest Group 7 Miniseminar, American Speech Language Hearing Association Convention, Orlando, FL, Nov. 20 – 22, 2014.
- 5.) **Hughes, ML**. "Validation of audiological measures via telepractice for cochlear implants." CI2013 Conference of the American Cochlear Implant Alliance, Washington, D.C., October 24 – 26, 2013.
- 6.) **Cullington H, Aschendorff A, Hughes M, Müller-Deile J, Cockburn J**. "7 times more patients in 7 years ... how will we cope?" Roundtable panel discussion, 10th European Symposium on Paediatric Cochlear Implantation, Athens, Greece, May 12 – 15, 2011.
- 7.) **Dillier N, Hughes M, Berger K, Wilhelm PH, Brill S, Büchner A, Kyriafinis G, Stavrianou E**. "Electrophysiology and device tuning strategies. How we do it – challenges." Roundtable panel discussion, 10th European Symposium on Paediatric Cochlear Implantation, Athens, Greece, May 12 – 15, 2011.
- 8.) **Hughes ML**, Neff DL, Stille LJ, & Goehring JL. "The relation between ECAP temporal response properties and temporal integration in cochlear implants." Invited podium presentation, Objective Measures in Auditory Implants 6th International Symposium, St. Louis, MO, Sept. 23 – 25, 2010.
- 9.) **Hughes ML**. "Clinical use of evoked potentials in cochlear implants." Invited faculty presentation, Cochlear Implants in Children and Adults Virtual Conference, hosted by the American Speech-Language Hearing Association, October 10 – 27, 2008.
- 10.) **Hughes ML**, Brown CJ, Etler C, Dunn S, Behrens A & Abbas PJ. "Using objective measures for pediatric cochlear implant programming. Invited podium presentation, American Speech Language and Hearing Association Convention, Chicago, IL, November 13 – 15, 2003.

Invited Presentations (Local, State, and Regional Conferences):

- 1.) **Hughes ML & Sevier J**. "Advances in cochlear implants." Nebraska Speech-Language-Hearing Association 2021 Annual Convention, Kearney, NE, September 30, 2021.
- 2.) Garvey J & **Hughes ML**. "The interaction between aging, cognition, and hearing loss." Nebraska Speech-Language-Hearing Association Webinar, May 7, 2020.
- 3.) **Hughes ML**. "Incorporating objective measures and telepractice into cochlear-implant service delivery." Montana Speech and Hearing Association 2019 Fall Convention, Billings, MT, October 18, 2019.
- 4.) **Hughes ML**. "Current projects in the University of Nebraska-Lincoln Cochlear Implant Research Lab." Nebraska Speech-Language-Hearing Association 2019 Fall Convention, Omaha, NE, October 4, 2019.
- 5.) **Hughes ML**. "Effect of stimulus polarity on the electrically evoked compound action potential: Implications for estimating neural survival." MARC-MANS, Omaha, NE, July 23 – 24, 2015.
- 6.) **Hughes ML**. "Cochlear implant resources at Boys Town National Research Hospital." Iowa Symposium on Hearing Loss: Impact on Children and Their Families, Ankeny, IA, September 29, 2012.

- 7.) **Hughes ML.** "Boys Town National Research Hospital: Diagnosis, resources, and support for hearing health." Sertoma Regional Convention, Lincoln, NE, August 12, 2011.
- 8.) **Hughes ML.** "The basics of cochlear implants." Nebraska Hearing Society Annual Spring Meeting, Lincoln, NE, March 18, 2011.
- 9.) **Hughes ML.** "Temporal responses of the auditory nerve in cochlear implants." 3rd Biennial Auditory Research Conference, Omaha, NE, July 24, 2009.
- 10.) **Hughes ML.** "An Introduction to cochlear implants." 86th Annual Sertoma International Convention, Omaha, NE, July 14, 2006.
- 11.) **Hughes ML & Stille LJ.** "Latest developments in cochlear implants." Nebraska Speech-Language-Hearing Association Fall Convention, Kearney, NE, September 29 – 30, 2005.
- 12.) **Hughes ML, Barrow KR, & Stille LJ.** "Psychophysical vs. physiologic channel interaction in cochlear implants." 1st Biennial Auditory Research Conference, Omaha, NE, June 4, 2005.
- 13.) **Hughes ML & Gantz, BJ.** "What's New in Cochlear Implants." Iowa Speech and Hearing Association, Des Moines, IA, October 22, 1999.

Other Invited Presentations:

- 1.) **Hughes ML, Goehring JL, Robinson SN, Baudhuin JL, & Scheperle RA.** "Telepractice for cochlear implants." ASHA Audiology 2015: Quality Outcomes for Cochlear Implants Online Conference, October 7 – 19, 2015.
- 2.) **Hughes ML.** "The use of objective measures with cochlear implants." Guest speaker, FDA ENT Advisory Panel meeting, Gaithersburg, MD, May 1, 2015.
- 3.) **Hughes ML.** "Clinical ECAP measurement techniques and tips." Live E-learning Web Seminar, *Audiology Online*, August 1, 2007.
- 4.) **Hughes ML.** "Issues in pediatric cochlear implantation." Invited podium presentation, Social Security Administration Policy Conference on Hearing Impairments and Disturbance of Labyrinthine – Vestibular Function, Washington, DC, November 7 – 8, 2005.
- 5.) **Hughes ML.** "Monitoring subjective and objective measures over time." Invited podium presentation, Advanced Bionics Investigators' Meeting on Objective Measures, Las Vegas, NV, March 22 – 23, 2004.

Refereed Presentations (National and International Conferences):

(*mentored professional, **mentored student)

- 1.) Jawad M, Soleimanifar S, Hughes ML, & Aronoff JM (2022). Spread of excitation as a measure of sensitivity to interaural asymmetry. 24th International Congress on Acoustics, Gyeongju, Korea (and virtual), October 24-28, 2022.
- 2.) ****Rogoz S, Vicente M, Rodriguez A, Hughes M.** "The associations between race/ethnicity, mental health, socioeconomic status, gender, and substance use." 2022 Symposium on Substance Use Research (virtual), November 10, 2022.
- 3.) ****Peterson M & Hughes ML.** "Communication profile for the hearing impaired: Outcomes for cochlear implants." 49th Annual Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, February 24-26, 2022.

- 4.) **Rodriguez A**, Hughes M, Zoucha K. "Feasibility of assessing the effects of substance use on auditory and vestibular function: Preliminary report." 14th Annual Meeting of the American Balance Society, February 22-23, 2022.
- 5.) Chen C, Stein, A, Hughes ML, Morris H, Litvak L, & **Zeitler DM**. "Testing speech perception with cochlear implants through digital audio streaming in a virtual sound booth: A feasibility study." American Cochlear Implant Alliance, Miami, FL, July 10 – 13, 2019.
- 6.) ***Sevier JD**, Choi S, & Hughes ML. "Measuring sound-processor threshold levels for pediatric cochlear implant recipients using visual reinforcement audiometry via telepractice." American Cochlear Implant Alliance, San Francisco, CA, July 27 – 29, 2017.
- 7.) **Hughes ML**, Sevier JD, & Choi S. "Remote programming for pediatric cochlear implant recipients." 3rd International Internet & Audiology Conference, Louisville, KY, July 27 – 28, 2017.
- 8.) ***Goehring JL**, Hughes ML, & Robinson SN. "Telepractice for pediatric CI programming: Measures of behavioral threshold and parent/caregiver satisfaction." 14th International Conference on Cochlear Implants and Other Implantable Technologies, May 11 – 14, 2016, Toronto, Ontario, Canada.
- 9.) **Hughes ML**, Baudhuin JL, Goehring JL, & Scheperle RA. "Effects of stimulus polarity and artifact cancellation method on ECAP responses." 8th International Symposium on Objective Measures in Auditory Implants, Toronto, Ontario, Canada, October 15 – 18, 2014.
- 10.) Hughes ML, Goehring JL, **Baudhuin JL**, & Lusk RP. "How well do intraoperative impedance measures predict post-operative electrode function?" 12th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Baltimore, MD, May 3 – 5, 2012.
- 11.) *Goehring JL, Hughes ML, **Baudhuin JL**, Valente DL, McCreery RW, Diaz GR, Sanford T, & Harpster R. "An evaluation of speech perception via telehealth: How does technology and testing environment affect scores for CI recipients?" 12th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Baltimore, MD, May 3 – 5, 2012.
- 12.) ***Goehring JL**, Hughes ML, Baudhuin JL, Diaz G, Sanford T, & Harpster R. "Validation of telehealth for clinical and research measures in CIs." 13th Symposium on Cochlear Implants in Children, Chicago, IL, July 13 – 16, 2011.
- 13.) **Hughes ML**, Goehring JL, Baudhuin J, Sanford T, & Harpster R. "A validity assessment of telehealth for clinical and research measures in CIs." 10th European Symposium on Paediatric Cochlear Implantation, Athens, Greece, May 12 – 15, 2011.
- 14.) **Hughes ML** & Glassman EK. "A comparison of computer versus human methods of ECAP threshold determination." 10th European Symposium on Paediatric Cochlear Implantation, Athens, Greece, May 12 – 15, 2011.
- 15.) **Hughes ML**, Simmons JL, & Harpster R. "Telehealth for cochlear implant service delivery: Where are we now?" 12th Symposium on Cochlear Implants in Children, Seattle, WA, June 17 – 20, 2009.
- 16.) **Hughes ML**, Castioni E, & Stille LJ. "Variability of temporal response properties of the auditory nerve across electrodes and subjects." 12th Symposium on Cochlear Implants in Children, Seattle, WA, June 17-20, 2009.
- 17.) **Hughes ML**. "A re-evaluation of the relation between physiological channel interaction and electrode pitch ranking in cochlear implants." 10th International Conference on Cochlear Implants and other Implantable Auditory Technologies, San Diego, CA, April 10 – 12, 2008.

- 18.) **Hughes ML**, Neff DL, & Simmons JL. "Performance outcomes for borderline cochlear implant candidates." 11th International Conference on Cochlear Implants in Children, Charlotte, NC, April 11 – 14, 2007.
- 19.) Moeller MP, **Stille LJ**, Neff DL, Hughes ML, Stelmachowicz PG, & Lusk RP. "Qualitative analysis of perceived advantages and disadvantages of bilateral cochlear implants. 11th International Conference on Cochlear Implants in Children, Charlotte, NC, April 11 – 14, 2007.
- 20.) **Hughes ML** & Simmons JL. "Performance outcomes for borderline cochlear implant candidates." American Speech Language Hearing Association 2006 Convention, Miami Beach, FL, November 16 – 18, 2006.
- 21.) **Hughes ML**, Barrow K, & Stille L. "A comparison between ECAP and psychophysical channel interaction." 10th Symposium on Cochlear Implants in Children, Dallas, TX, March 15 – 18, 2005.
- 22.) **Hughes ML** & Abbas PJ. "ECAP channel interaction and electrode discrimination ability in cochlear implants." VIII International Cochlear Implant Conference, Indianapolis, IN, May 10 – 13, 2004.
- 23.) **Etler CP**, Abbas PJ, Hughes ML, Brown CJ, Dunn SM, Zubrod LJ, & Van Voorst TL. "Comparison of psychophysical and electrophysiologic measures of channel interaction. VIII International Cochlear Implant Conference, Indianapolis, IN, May 10 – 13, 2004.
- 24.) **Abbas PJ**, Brown CJ, Hughes ML, Etler CP, Behrens A, & Dunn S. "The electrically-evoked compound action potential: Channel interaction measures." Conference on Implantable Auditory Prostheses, Pacific Grove, CA, August 17 – 22, 2003.
- 25.) Hughes ML, **Abbas PJ**, Brown CJ, Etler C, Behrens A, & Dunn S. "Comparison of two methods used to measure the ECAP in subjects implanted with the Clarion CII device." Objective Measures in Cochlear Implants, Ann Arbor, MI, June 26 – 28, 2003.
- 26.) **Brown CJ**, Hughes ML, Dunn S, Etler C, Behrens A, & Abbas PJ. "Comparison of performance using NRT-based MAPs with a range of other experimental MAPs in adult Nucleus cochlear implant recipients." Objective Measures in Cochlear Implants, Ann Arbor, MI, June 26 – 28, 2003.
- 27.) **Brown CJ**, Abbas PJ, Hughes ML, Miller CA, Etler C, Behrens A, & Dunn S. "Using NRT to assess channel interaction in cochlear implant users." Objective Measures in Cochlear Implants, Ann Arbor, MI, June 26 – 28, 2003.
- 28.) **Abbas PJ**, Hughes ML, Brown CJ, Miller CA, Etler C, Behrens A, & Dunn S. "Simultaneous and non-simultaneous channel interaction measures using the electrically evoked compound action potential." 9th Symposium on Cochlear Implants in Children, Washington, DC, April 24 – 26, 2003.
- 29.) **Brown CJ**, Abbas PJ, Hughes M, Etler C, Dunn S, & Behrens A. "Cochlear implant programming and NRT/NRI." 9th Symposium on Cochlear Implants in Children, Washington, DC, April 24 – 26, 2003.
- 30.) **Brown CJ**, Abbas PJ, Hughes M, Etler C, Dunn S, & Behrens A. "Initial experience with NRI at the University of Iowa." Podium presentation, Advanced Bionics Technology Update preceding the 9th Symposium on Cochlear Implants in Children, Washington, DC, April 23, 2003.

- 31.) **Abbas PJ**, Hughes ML, Brown CJ, & Miller CA. "Physiological assessment of spatial tuning and channel interaction in cochlear implants." 26th Midwinter Meeting of the Association for Research in Otolaryngology, Daytona Beach, FL, February 23 – 27, 2003.
- 32.) Brown CJ, **Hughes ML**, Abbas PJ, South H, & Schmidt-Clay K. "Comparisons between NRT thresholds and 900 Hz MAP T- and C-levels in Nucleus cochlear implant users." 7th International Cochlear Implant Conference, Manchester, United Kingdom, September 4 – 6, 2002.
- 33.) **Abbas PJ**, Hughes ML, Brown CJ, Miller CA, & South H. "Measures of spatial selectivity using intracochlear ECAP." Candidacy for Implantable Hearing Devices, Utrecht, The Netherlands, June 27 – 29, 2002.
- 34.) **Hughes ML**, Kelsay DMR, Sonneveldt V, Teagle HFB, South HA, Brown CJ, & Abbas PJ. "An update on using NRT for speech processor programming in young children." Instructional course, American Academy of Audiology Convention, Philadelphia, PA, April 17 – 20, 2002.
- 35.) **Hughes ML**, Abbas PJ, South HA, & Brown CJ. "Accuracy of NRT-based MAPs for SPEAK versus ACE and Contour versus Straight arrays in children." Cochlear Corporation symposium preceding the American Academy of Audiology Convention, Philadelphia, PA, April 17, 2002.
- 36.) **Brown CJ**, Abbas PJ, & Hughes ML. "Clinical Applications of Neural Response Telemetry." 2nd International Symposium and Workshop on Objective Measures in Cochlear Implants, Lyon, France, March 16 – 18, 2001.
- 37.) **Abbas PJ**, Brown CJ, & Hughes ML. "Comparison of Whole-Nerve Potential and Perceptual Measures in Binaurally Implanted Subjects." 2nd International Symposium and Workshop on Objective Measures in Cochlear Implants, Lyon, France, March 16 – 18, 2001.
- 38.) **Abbas PJ**, Brown CJ, Hughes ML, Seyle K & South H. "Comparison of NRT Measures in Straight and Contour Electrode Arrays." Cochlear Corporation symposium preceding the 2nd International Symposium and Workshop on Objective Measures in Cochlear Implants, Lyon, France, March 16 – 18, 2001.
- 39.) **Hughes ML**, Brown CJ, & Abbas PJ. "Infant Programming: Combining Behavioral & Electrophysiological Measures." Cochlear Corporation symposium preceding The 8th Symposium on Cochlear Implants in Children, Los Angeles, CA, February 28, 2001.
- 40.) **Abbas PJ**, Brown CJ, Hughes ML, Johnson TA, & Schmidt-Clay KM. "Use of Electrophysiological Measures to Predict MAP Thresholds." 8th Symposium on Cochlear Implants in Children, Los Angeles, CA, February 28 – March 3, 2001.
- 41.) **Abbas PJ**, Brown CJ, Hughes ML, Wahl B, & Gehringer A. "Measurements of electrically evoked responses to pulse trains using neural response telemetry." 5th European Symposium on Paediatric Cochlear Implantation, Antwerp, Belgium, June 4 – 7, 2000.
- 42.) **Abbas PJ**, Brown CJ, Hughes ML, Wahl B, Gehringer A, Johnson T, & Vander Werff K. "NRT: Alternate subtraction method and a further look at predicting T and C levels." 5th European Symposium on Paediatric Cochlear Implantation, Antwerp, Belgium, June 4 – 7, 2000.
- 43.) **Hughes ML**, Brown CJ, & Abbas PJ. "Clinical Applications of NRT in Children." Cochlear Corporation sponsored event, 12th Annual Convention & Exposition of the American Academy of Audiology, Chicago, IL, March 16 – 19, 2000.
- 44.) **Brown CJ**, **Hughes ML**, Abbas PJ, **Vander Werff K**, **Seyle K**, **Luk B**, & **Wahl B**. "From the laboratory to the clinic: Neural Response Telemetry (NRT)." Instructional course, 12th Annual

- Convention & Exposition of the American Academy of Audiology, Chicago, IL, March 16 – 19, 2000.
- 45.) **Brown CJ**, Abbas PJ, Hughes M, Parkinson A, & Tyler R. “Cross-electrode differences in EAP growth and recovery functions measured using the Nucleus NRT software: correlation with speech performance.” Conference on Implantable Auditory Prostheses, Asilomar Conference Center, Pacific Grove, CA, August 1999.
 - 46.) **Hughes ML**, Abbas PJ, & Brown CJ. “Using EAP thresholds to facilitate creating MAPs for children with the Nucleus CI24M.” 11th Annual Convention of the American Academy of Audiology, Miami Beach, FL, April 29 – May 1, 1999.
 - 47.) **Brown CJ, Firszt JB, & Hughes ML**. “Electrically Evoked Auditory Potentials: Clinical Applications.” Featured Session, 11th Annual Convention of the American Academy of Audiology, Miami Beach, FL, April 29 – May 1, 1999.
 - 48.) **Gantz BJ**, Hughes ML, Abbas PJ, & Brown CJ. “Using EAP thresholds to facilitate creating MAPs for children with the Nucleus CI24M.” 2nd Asia Pacific Symposium on Cochlear Implant and Related Sciences, Seoul, South Korea, April 2 – 4, 1999.
 - 49.) **Abbas PJ**, Brown CJ, Hughes ML, Gantz BJ, Wolaver AA, Gervais JP, & Hong SH. “Electrically evoked compound action potentials (EAP) recorded from subjects who use the Nucleus CI24M device.” Seventh Symposium on Cochlear Implants in Children, Iowa City, IA, June 4 – 7, 1998.
 - 50.) **Brown CJ**, Abbas PJ, Hughes ML, & Hong SH. “Assessing electrically evoked auditory nerve activity using the neural response telemetry system of the nucleus CI24M cochlear implant.” Seventh Symposium on Cochlear Implants in Children, Iowa City, IA, June 4 – 7, 1998.
 - 51.) **Brown CJ**, Abbas PJ, Rubinstein JT, Hughes ML, Moore S, & Hong SH. “Comparison of Techniques for Assessing the Integrity of the Internal Components of the Nucleus 22-Channel Cochlear Implant.” V International Cochlear Implant Conference, New York, NY, May 1 – 3, 1997.

POSTER PRESENTATIONS

Refereed Posters (National and International Conferences):

(*mentored professional; **mentored student)

- 1.) Hughes ML, Chiao AI, Premkumar PK & Rogoz S (2022). Examining the impacts of substance misuse on auditory and vestibular function. 8th Biennial National IDeA Symposium of Biomedical Research Excellence (NISBRE), December 12-14, 2022 (virtual).
- 2.) **Graves E, **Sajjadi A, & Hughes ML (2022). MoCA outcomes for normal hearing versus cochlear implants. 49th Annual Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, February 24-26, 2022.
- 3.) Hughes ML, Rodriguez A, Zoucha K (2022). Effects of substance misuse on auditory and vestibular function. 49th Annual Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, February 24-26, 2022.
- 4.) **Peterson M & Hughes ML (2022). Communication profile for the hearing impaired: Outcomes for cochlear implants. 49th Annual Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, February 24-26, 2022.

- 5.) **Zimmel J & Hughes M. (2022). The effects of EchoBlock on speech understanding for cochlear implant users in reverberant conditions. 49th Annual Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, February 24-26, 2022.
- 6.) Rodriguez A, Hughes M, & Zoucha K (2021). Feasibility of assessing the effects of substance use on auditory and vestibular function: Preliminary report. 2021 Symposium on Substance Use Research, virtual conference, November 9-11, 2021.
- 7.) **Sanchez D, Vicente M, Rodriguez A, & Hughes M (2021). Assessing healthcare providers' knowledge of ototoxicity effects of illicit drugs and prescription opioids. 2021 Symposium on Substance Use Research, virtual conference, November 9-11, 2021.
- 8.) Hughes ML (2021). ECAP polarity sensitivity correlates with psychophysical multi-pulse integration. 2021 Conference on Implantable Auditory Prostheses, virtual conference, July 12-16, 2021.
- 9.) Chen C, Stein A, Hughes M, Morris H, Zeitler D, & Litvak L (2019). Achieving equivalent cochlear implant speech recognition in virtual and real sound booths. 2019 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 15 – 19.
- 10.) Hughes ML (2019). Polarity sensitivity and refractory recovery of the electrically evoked compound action potential. 2019 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 15 – 19.
- 11.) Hughes ML & Choi S (2019). Polarity sensitivity of the electrically evoked compound action potential: Effects of pulse phase duration. 2019 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 15 – 19.
- 12.) **McDonald TC, Sevier JD, & Hughes ML (2018). Performance of cochlear implants in reverberation and noise: Implications for telepractice. American Academy of Audiology 2018, Nashville, TN, April 18 – 21.
- 13.) **McDonald TC, Sevier JD, & Hughes ML (2018). Performance of cochlear implants in reverberation and noise: Implications for telepractice. T35 Mentored Research Poster, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 1 – 3.
- 14.) **McDonald TC, Sevier JD, Choi S, & Hughes ML (2017). Options for remote speech-perception testing with adult cochlear-implant recipients. 3rd International Internet & Audiology Conference, Louisville, KY, July 27 – 28.
- 15.) Hughes ML, Choi S, & Glickman E (2017). Physiological effects of polarity and interphase gap as potential estimates of neural health. 2017 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 17 – 21.
- 16.) *Choi S, Hughes ML, & Sevier JD (2017). Stimulus polarity effects across a large group of cochlear implant recipients: Implications for estimating neural health. 2017 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 17 – 21.
- 17.) **Spitzer ER & Hughes ML (2017). Effects of stimulus polarity on physiological spread of excitation in cochlear implants. T35 Mentored Research Poster, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 2 – 4.
- 18.) *Sevier JD, Choi S, & Hughes ML (2017). Use of direct-connect for remote speech-perception testing in cochlear implants. Research Poster, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 2 – 4.

- 19.) **Glickman EE, Hughes ML, Goehring JL, & Miller MK (2016). Effect of interphase gap and polarity in cochlear implants. T35 Mentored Research Poster, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 3 – 5.
- 20.) *Robinson SN, Hughes ML, & Erdman SA (2015). Telepractice for cochlear implants: Adult aural rehabilitation. American Speech Language Hearing Association Convention, Denver, CO, Nov. 12 – 14, 2015.
- 21.) Hughes ML, Scheperle RA, & Goehring JL (2015). What can ECAP polarity sensitivity tell us about auditory nerve survival? Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 13 – 17.
- 22.) *Scheperle RA & Hughes ML (2015). Peripheral contributions to loudness for cochlear implants. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 13 – 17.
- 23.) Hughes ML, Scheperle RA, Baudhuin J, & Goehring J (2015). Can ECAP polarity sensitivity be used to estimate neural health? Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 5 – 7.
- 24.) *Scheperle RA, Hughes ML, Baudhuin J, & Goehring J (2015). Exploring peripheral contributions to loudness: Cochlear implants. Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 5 – 7.
- 25.) *Scheperle RA, Hughes ML, Baudhuin JL, & Goehring JL (2014). Variability across single-trial ECAPs and the relation to speech perception. Abstracts of the 8th International Symposium on Objective Measures in Auditory Implants, Toronto, Ontario, Canada, October 15 – 18.
- 26.) *Baudhuin JL, Hughes ML, & Goehring JL (2014). A comparison of alternating polarity and forward masking in Cochlear devices. Abstracts of the 8th International Symposium on Objective Measures in Auditory Implants, Toronto, Ontario, Canada, October 15 – 18.
- 27.) Hughes ML, Baudhuin J, Goehring J, & Neff D (2013). Effect of electrode impedance on ECAP spread of excitation and pitch discrimination with dual-electrode stimulation. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 14 – 19.
- 28.) Hughes ML, Euscher K, Goehring J, Baudhuin J, & Neff D (2013). Effect of masker level, rate, and spatial separation on psychophysical thresholds for interleaved pulse trains. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 14 – 19.
- 29.) **Guillemette S, Hughes ML, & Baudhuin JL (2013). The effects of stimulus level on ECAP temporal responses. T35 Mentored Research Posters, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 7 – 9.
- 30.) Simmons JL & Hughes ML (2012). Can middle ear dysfunction impact cochlear implant function? Abstracts of the 12th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Baltimore, MD, May 3 – 5.
- 31.) **Bournique JL, Hughes ML, Baudhuin JL, & Goehring JL (2012). What region of the cochlea contributes the most to speech perception? T35 Mentored Research Posters, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 8 – 10.
- 32.) **Rosemond EK & Hughes ML (2010). Computer versus human threshold determination for the electrically evoked compound action potential. Abstracts of the Objective Measures in Auditory Implants 6th International Symposium, St. Louis, MO, Sept. 23 – 25.

- 33.) Hughes ML, Goehring JL, Helbig AP, Sanford T, & Harpster R (2010). Using telehealth for clinical and research measures in CIs: A validation study. Abstracts of the Objective Measures in Auditory Implants 6th International Symposium, St. Louis, MO, Sept. 23 – 25.
- 34.) **Rosemond EK & Hughes ML (2010). Determining ECAP thresholds: Which is better, computer or human? T35 Mentored Research Poster, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 4 – 6.
- 35.) Hughes ML, Castioni E, & Stille LJ (2009). Auditory nerve temporal response variation across electrodes and subjects. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 12 – 17.
- 36.) Hughes ML & Goulson A (2009). Auditory nerve responses with intermediate-electrode stimulation. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 12 – 17.
- 37.) **Castioni E & Hughes ML (2009). Characterizing temporal response properties of the electrically stimulated auditory nerve. T35 Mentored Research Poster, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 5 – 7.
- 38.) Hughes ML & Stille LJ (2008). Physiological spatial excitation patterns in the electrically stimulated ear: Parametric effects. Abstracts of the 10th International Conference on Cochlear Implants and other Implantable Auditory Technologies, San Diego, CA, April 10 – 12.
- 39.) Hughes ML, Stille LJ, & Neff DL (2007). Physiological and psychophysical channel interaction with simultaneous stimulation. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 15 – 20.
- 40.) Neff DL & Hughes ML (2007). Identification of tonal patterns in competing backgrounds by children and adults with cochlear implants. Abstracts of the Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July 15 – 20.
- 41.) Hughes ML & Stille LJ (2007). A comparison of physiological and psychophysical single-pulse forward masking in cochlear implants. Abstracts of the 11th International Conference on Cochlear Implants in Children, Charlotte, NC, April 11 – 14.
- 42.) Hughes ML, Stille LJ, & Barrow KR (2005). Psychophysical and physiologic forward masking patterns in cochlear implants. Abstracts of the Conference on Implantable Auditory Prostheses, Pacific Grove, CA, July 30 – August 4.
- 43.) Hughes ML, Abbas PJ, Dunn SM, Brown CJ, Etler CP, & Behrens A (2003). Comparison of electrophysiologic channel interaction measures between conventional and peri-modiolar electrode arrays. Abstracts of the 9th Symposium on Cochlear Implants in Children, Washington, DC, April 24 – 26.
- 44.) Hughes ML & Abbas PJ (2003). The relationship between electrophysiologic and psychophysical measures of spatial spread in cochlear implants. Mentored Student and Resident Research Posters, Abstracts of the Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 13 – 15.
- 45.) Hughes ML, Abbas PJ, & Brown CJ (2003). The relationship between electrophysiologic and psychophysical measures of spatial spread in cochlear implants. Abstracts of the 26th Midwinter Meeting of the Association for Research in Otolaryngology, Daytona Beach, FL, February 23 – 27.

- 46.) Hughes ML, Abbas PJ, & Brown CJ (2002). The relationship between electrophysiologic and psychophysical measures of spatial spread in cochlear implants. Abstracts of the 7th International Cochlear Implant Conference, Manchester, United Kingdom, September 4 – 6.
- 47.) Abbas PJ, Hughes ML, Brown CJ, South H, & Miller CA (2002). Assessment of spatial selectivity using ECAP to measure neural response. Abstracts of the 7th International Cochlear Implant Conference, Manchester, United Kingdom, September 4 – 6.
- 48.) Hughes ML, Abbas PJ, Brown CJ, Seyle K, & South H (2001). Assessing spatial spread in straight and modiolar hugging electrode arrays. Abstracts of the 8th Symposium on Cochlear Implants in Children, Los Angeles, CA, February 28 – March 3.
- 49.) Hughes ML & Abbas PJ (2000). Using EAP thresholds to predict MAP levels for young children. Abstracts of the 12th Annual Convention & Exposition of the American Academy of Audiology, Chicago, IL, March 16 – 19.
- 50.) Hughes ML, Abbas PJ, & Brown CJ (2000). Changes over time in EAP measures in children. Abstracts of the 6th International Cochlear Implant Conference, Miami Beach, FL, February 3 – 5.
- 51.) Brown CJ, Hughes ML, Abbas PJ, Gantz BJ, & Rubinstein JT (2000). Prediction of post-implant performance based on pre-implant promontory stimulation: Data from bilateral cochlear implant users. Abstracts of the 6th International Cochlear Implant Conference, Miami Beach, FL, February 3 – 5.
- 52.) Hughes ML, Abbas PJ, Brown CJ, Hong SH, Gervais JP, Wolaver AA, Teagle HFB, & Kelsay DMR (1998). Using neural response telemetry to measure the electrically evoked compound action potentials in children with the Nucleus CI24M cochlear implant. Abstracts of the 7th Symposium on Cochlear Implants in Children, Iowa City, IA, June 4 – 7.
- 53.) Hong SH, Hughes ML, Abbas PJ, Brown CJ, Gervais JP, Wolaver AA, & Gantz BJ (1998). Temporal response measures of the electrically evoked compound action potential (EAP) using the neural response telemetry system of the Nucleus CI24M device. Abstracts of the 7th Symposium on Cochlear Implants in Children, Iowa City, IA, June 4 – 7.
- 54.) Hong SH, Brown CJ, Hughes ML, & Abbas PJ (1998). Electrically evoked compound action potentials using neural response telemetry in CI24M: Refractory recovery function of the auditory nerve. Abstracts of the Association for Research in Otolaryngology, St. Petersburg Beach, FL, February 16 – 20.

Posters (Local, State, and Regional Conferences):

(**mentored student)

- 1.) **Rogoz S, Vicente M, Rodriguez A, & Hughes M. “The associations between race/ethnicity, mental health, socioeconomic status, gender, and substance use.” 2022 University of Nebraska-Lincoln Undergraduate Creative Activities and Research Experience (UCARE) Summer Research Symposium, August 5, 2022.
- 2.) **Sanchez D, Vicente M, Rodriguez A, & Hughes M (2022). Assessing healthcare providers’ knowledge of ototoxicity effects of illicit drugs and prescription opioids. 2022 University of Nebraska-Lincoln Student Research Fair, April 12, 2022.
- 3.) **Zimmel J & Hughes ML (2021). The effects of EchoBlock on speech understanding for cochlear implant users in reverberant conditions. Nebraska Speech-Language-Hearing Association 2021 Annual Convention, Kearney, NE, September 30, 2021.

INVITED LOCAL EDUCATIONAL PROGRAMS AND SEMINARS:

- 1.) Hughes ML. "An introduction to cochlear implants." Osher Lifetime Learning Institute short course, University of Nebraska-Lincoln, Lincoln, NE, November 10, 2020.
- 2.) Hughes ML. "An introduction to cochlear implants." Osher Lifetime Learning Institute short course, University of Nebraska-Lincoln, Lincoln, NE, October 15, 2019.
- 3.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, March 31, 2017.
- 4.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, April 1, 2016.
- 5.) Hughes ML. "Cochlear implant candidacy: Past to present." Creighton University Partners in Health Engage, Omaha, NE, March 30, 2016.
- 6.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, April 2, 2015.
- 7.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, April 3, 2014.
- 8.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, April 4, 2013.
- 9.) Hughes ML. "Speech perception via telehealth and the role of electrode impedance on virtual channels: Two studies from the cochlear implant research lab." Cochlear Implant Seminar, Smart Lunch Lecture Series, Boys Town National Research Hospital, Omaha, NE, June 12, 2012.
- 10.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, March 29, 2012.
- 11.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, March 31, 2011.
- 12.) Hughes ML. "Virtual channels in cochlear implants." BMS791 Seminar, Creighton University, Omaha, NE, February 15, 2011.
- 13.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, April 1, 2010.
- 14.) Hughes ML. "Stimulation with virtual channels in cochlear implants." Cochlear Implant Seminar, Smart Lunch Lecture Series, Boys Town National Research Hospital, Omaha, NE, November 2, 2010.
- 15.) Hughes ML. "Session 1, Conceptual Background: Basic physiology and perception." In "Cochlear Implants: From Concept to Classroom," Auditory Consultant Resource Network lecture series, Boys Town National Research Hospital, Omaha, NE, October 29, 2010.
- 16.) Hughes ML & Goehring JL. "Cochlear implant measurements via telehealth: A validation study." Cochlear Implant Seminar, Smart Lunch Lecture Series, Boys Town National Research Hospital, Omaha, NE, July 6, 2010.
- 17.) Hughes ML. "An introduction to cochlear implants." Grand rounds lecture for Creighton University Medical School first-year students, Omaha, NE, April 2, 2009.

- 18.) Hughes ML. "Current research in cochlear implants." CI Sertoma Club, Lincoln, NE, January 24, 2008.
- 19.) Hughes ML. "The relation between physiology and psychophysics in cochlear implants." Cochlear Implant Seminar, Smart Lunch Lecture Series, Boys Town National Research Hospital, Omaha, NE, September 16, 2008.
- 20.) Hughes ML. "Performance outcomes for borderline cochlear implant candidates." Cochlear Implant Seminar, Smart Lunch Lecture Series, Boys Town National Research Hospital, Omaha, NE, March 18, 2008.
- 21.) Hughes ML. "An introduction to cochlear implants." Star City Lions Club, Lincoln, NE, February 2, 2006.
- 22.) Hughes ML. "Latest developments in cochlear implants: Part II." Cochlear Implant Seminar, Boys Town National Research Hospital, Omaha, NE, April 18, 2006.
- 23.) Hughes ML. "Latest developments in cochlear implants: Part I." Cochlear Implant Seminar, Boys Town National Research Hospital, Omaha, NE, February 21, 2006.
- 24.) Hughes ML. "Effect of age at implant on outcomes with a CI." Cochlear Implant Seminar, Boys Town National Research Hospital, Omaha, NE, August 17, 2004.
- 25.) Hughes ML. "Overview of evoked potentials in CI programming: ECAP." Cochlear Implant Seminar, Boys Town National Research Hospital, Omaha, NE, November 18, 2003.
- 26.) Hughes ML. "Overview of evoked potentials in CI programming: EABR." Cochlear Implant Seminar, Boys Town National Research Hospital, Omaha, NE, October 21, 2003.

TEACHING

University of Nebraska-Lincoln, Department of Special Education and Communication Disorders

- SLPA 907: Pediatric Audiology and Electrophysiology, 8 credits (co-taught, Fall 2022)
- SLPA 936: Implantable Prosthetics, 3 credits (Fall 2005-Spring 2013; Spring 2019, 2020, 2021)
- SLPA 918: Auditory Assessment of Infants and Children, 3 credits (Fall 2018, 2019, 2020, 2021)
- SLPA 942: Seminar in Audiology, 2 credits (Capstone course, selected lectures; Spring 2019, 2020, 2021)
- SLPA 998: Research Other Than Thesis (Summer 2019, Summer 2020, Fall 2020, Spring 2021, Summer 2021, Fall 2021, Spring 2022, Fall 2022)
- SLPA 894: Independent Study (Fall, 2021)

Nova Southeastern University, Department of Audiology (United Kingdom Distance Program, London)

- AUD6504: Implantable Hearing Technologies (Fall 2012 and Fall 2014)

University of Iowa, Department of Speech Pathology and Audiology

- 003:290 Objective Measures (Spring 2001) – Teaching Assistant

MENTORING

*(*Project presented at national/international meeting, **project published in peer-reviewed journal)*

Primary mentor, undergraduate research:

***Undergraduate UCARE research:** Sarah Rogoz, University of Nebraska-Lincoln, Undergraduate UCARE. Project title: The relationships between race/ethnicity, mental health, socioeconomic status, gender, and substance use. Summer 2022.

***Undergraduate MHD research:** David Sanchez, University of Nebraska-Lincoln, Minority Health Disparities Initiative. Project title: Assessing healthcare providers' knowledge of ototoxicity effects of illicit drugs and prescription opioids. Jan 2021-May 2022.

Primary mentor (T35 Trainees) or Committee Chair (AuD Capstones), doctoral research:

Au.D. Capstone: Katy Beth Ezell, University of Nebraska-Lincoln. Project title: The ototoxic effects of illicit drugs on hearing. Aug 2022 – present.

Au.D. Capstone: Molly Donnell, University of Nebraska-Lincoln. Project title: Examining inconsistencies in speech perception scores in adult cochlear implant users based on cognitive functions. Jan 2021 – present.

***Au.D. Capstone:** Megan Peterson, University of Nebraska-Lincoln. Project title: A comparison of cochlear implant results to the hearing aid data from the Communication Profile for the Hearing Impaired. Jan 2021 – present.

Au.D. Capstone: Summer Brown, University of Nebraska-Lincoln. Project title: Characterizing the effects of chronic alcohol and illicit drug use on auditory function. Jan 2019 – May 2022.

***Au.D. Capstone:** Emily Graves, University of Nebraska-Lincoln. Project title: A comparison of Montreal Cognitive Assessment scores among individuals with normal hearing and cochlear implants. Jan 2020 – May 2022.

***Au.D. Capstone:** Josie Zimmel, University of Nebraska-Lincoln. Project title: Effects of EchoBlock on speech understanding for cochlear implant users in reverberant conditions. Jan 2020 – May 2022.

Au.D. Capstone: Jamie Petersen, University of Nebraska-Lincoln. Project title: Hearing loss and cognitive decline measured in individuals with partially restored audibility versus individuals with profound deafness. Jan 2020 – July 2021.

Au.D. Capstone: Elysa Binger, University of Nebraska-Lincoln. Project title: How pulse rate affects electrically evoked stapedial reflex thresholds and the relation with upper-comfort levels in cochlear implants. Jan 2019 – May 2021.

Au.D. Capstone: Jamie Koch, University of Nebraska-Lincoln. Project title: What factors predict discrepancies between word and sentence scores in adult cochlear implant users? Jan 2019 – May 2021.

Au.D. Capstone: Emily Sanders, University of Nebraska-Lincoln. Project title: Influence of polarity on temporal response properties of the electrically evoked compound action potential in cochlear implant users. Jan 2019 – May 2021.

***T35 Trainee:** Tia C. McDonald, B.A., University of Arkansas for Medical Sciences (3rd-year Au.D. student; degree anticipated May 2019). Project title: "The effect of signal-to-noise ratio and reverberation on speech perception in cochlear implant users: Implications for remote testing." NIH/NIDCD T35 DC008757, May – Aug 2017.

****T35 Trainee:** Emily R. Spitzer, B.S., University of North Carolina-Chapel Hill (3rd-year Au.D. student; degree conferred 2018). Project title: "Effect of stimulus polarity on physiological spread of excitation in cochlear implants." NIH/NIDCD T35 DC008757, May – Aug 2016.

****T35 Trainee:** Erin Glickman, B.A., University of Maryland-College Park (3rd-year Au.D. student; degree conferred 2017). Project title: "Effects of interphase gap and polarity in cochlear implants." NIH/NIDCD T35 DC008757, May – July 2015.

Au.D. Capstone: Kirsten Euscher, B.A., University of Nebraska-Lincoln. Project title: “Effects of stimulus rate, level, and spatial separation on psychophysical thresholds for interleaved stimulation.” Oct 2012 – May 2014.

****T35 Trainee:** Sarah (Guillemette) Laurello, B. A., University of Northern Colorado (3rd-year Au.D. student; degree conferred 2014). Project title: “Effect of stimulus level on ECAP stochastic rate.” NIH/NIDCD T35 DC008757, May – July 2012.

****T35 Trainee:** Jennifer Bournique, B.A., The Ohio State University (3rd-year Au.D. student; degree conferred 2013). Project title: “Effect of ECAP-based choice of stimulation rate on speech-perception performance.” NIH/NIDCD T35 DC008757, June – Sep 2011.

Au.D. Capstone: Gina R. Diaz, B.S., University of Nebraska-Lincoln. Project title: “A retrospective analysis of speech-perception outcomes for children and adolescents receiving sequential bilateral cochlear implants with at least 4 years between surgeries.” Oct 2010 – May 2012.

****T35 Trainee:** E. Katelyn (Rosemond) Glassman, B.A., University North Carolina-Chapel Hill (3rd-year Au.D. student; degree conferred 2011). Project title: “Determining electrically evoked compound action potential thresholds: A comparison of computer versus human analysis methods” NIH/NIDCD T35 DC008757, May – Aug 2009.

****Au.D. Capstone:** Adam Goulson, M.S., University of Nebraska-Lincoln. Project title: “Using the electrically evoked compound action potential to compare physical- versus intermediate-electrode stimulation.” Oct 2008 – Mar 2010.

****T35 Trainee:** Erin Castioni, B.S., University of Texas at Dallas (3rd-year Au.D. student; degree conferred 2010). Project title: “Characterizing temporal response properties of the auditory nerve in response to electrical stimulation”, NIH/NIDCD T35 DC008757, May – Aug 2008.

Post-doctoral mentorship:

ASHA Pathways Program: Sarah Warren Kennett, Au.D., Ph.D. candidate, University of Arkansas for Medical Sciences.

CoBRE Individual Project Investigator: Marc Brennan, Ph.D., Boys Town National Research Hospital. Project 4: “Temporal resolution in children with hearing loss.” P20 GM109023, April 2014 – April 2017.

***Postdoctoral Fellow:** Rachel Scheperle, Au.D., Ph.D., Boys Town National Research Hospital. NIH/NIDCD T32 DC000013, Jan 2014 – July 2015.

***F33 Fellow:** Co-sponsor for Donna Neff, Ph.D. (Primary Investigator), “Pattern perception measures for cochlear implant users”, NIH/NIDCD F33 DC007280, Aug 1, 2005 – June 30, 2007.

EXTERNAL THESIS/DISSERTATION COMMITTEES

External examiner: Stephen Wetherill, PhD thesis, University of Southampton, United Kingdom, March 2021.

External examiner: Petra (van Blerk) Swanepoel, Masters thesis, University of Pretoria, South Africa, December 2022.

CONSULTING

Principal Investigator: Justin Aronoff, Ph.D., University of Illinois Champaign-Urbana

Grant Number: R01 DC018529

Project Title: The contributions of interaurally correlated signals and interaurally symmetric place of stimulation for the binaural auditory system

Funding Source: NIH, NIDCD

Dates: 2021 – present

Role: Consultant

Principal Investigator: Lina Reiss, Ph.D., Oregon Health Sciences University

Grant Number: R01 DC013307

Project Title: Binaural spectral integration with hearing loss and hearing devices

Funding Source: NIH, NIDCD

Dates: 2019 – present

Role: Consultant

Principal Investigator: David M. Landsberger, Ph.D., New York University

Grant Number: R01 DC012152

Project Title: Reduction in spread of excitation as a predictor of multi-channel spectral resolution for cochlear implantees

Funding Source: NIH, NIDCD

Dates: 2012 – 2016

Role: Consultant

OTHER GRANTS & AWARDS

- Josie Zimmel, American Auditory Society Mentored Student Travel Award (Feb 2022)
- Emily Graves, American Auditory Society Mentored Student Travel Award (Feb 2022)
- Megan Peterson, American Auditory Society Mentored Student Travel Award (Feb 2022)
- Alexander Graham Bell Association Cochlear Implant Fellowship (2007-2008; \$15,000)
- American Speech Language Hearing Association 5th Annual Research Conference on Communication Sciences and Disorders, Lessons for Success Research Conference: Developing the Emerging Scientist (March 2007; \$1,000 travel award)
- NIH Loan Repayment Program (Renewal, August 2006 – July 2008)
- Alexander Graham Bell Association Cochlear Implant Fellowship (2006 – 2007; \$15,000)
- Alexander Graham Bell Association Cochlear Implant Fellowship (2005 – 2006; \$15,000)
- NIH Loan Repayment Program (October 2004 – July 2006)
- Mentored Student Travel Award (Scientific and Technology Meeting of the American Auditory Society, Scottsdale, AZ, March 13 – 15, 2003)
- Professional Development Award, University of Iowa Office of Staff Development, March 2002
- University of Iowa Staff Tuition Grants and Staff Council Scholarships (2000 – 2003)

SERVICE

University of Nebraska system:

- Courtesy appointment, Department of Otolaryngology, University of Nebraska Medical Center (Nov 6, 2020–present)

Intramural, University of Nebraska-Lincoln (2018–present):

- CEHS Promotion and Tenure Committee (Fall 2022–present)
- Search Committee, Audiology Assistant Professor of Practice (Fall 2021–Spring 2022)
- CEHS Research Committee (Oct 2020–Oct 2023)
- Audiology Graduate Governance Committee (Aug 2018–present); Chair (July 2021–July 2022)
- Executive Graduate Governance Committee (Aug 2018–present)
- Graduate Faculty (Aug 2018–present)
- Chair's Advisory Committee (Dec 2019–Dec 2021)

- SECD Dept. Chair Search Committee (2019–2020)

Intramural, Boys Town National Research Hospital (2003–2018):

- Boys Town Emerging Leaders, Professional Development Committee (Oct 2016–July 2018)
- Research Training Committee (Oct 2015–July 2018)
- Review and Promotions Committee (Aug 2014–Oct 2015)
- COBRE Executive Committee (April 2014–March 2017)
- Co-Coordinator, Research Mentoring Support Group for junior investigators (Jan 2014–March 2017)
- Policy Development Committee (July 2013–2015)
- Co-Chair, Responsible Conduct in Research Course (May 2011–July 2018)
- Coordinator, Cochlear Implant Journal Group (2003–2018)

Extramural:

- Standing study section member, National Institutes of Health, National Institute on Deafness and Other Communication Disorders, Communication Disorders Review Committee (NIH CDRC grant reviews), (*July 1, 2020–June 30, 2024*)
- Board of Directors, Auditory Implant Research (*July 2019–present*)
- Section Editor, Cochlear Implants and Rehabilitative Audiology, *Ear and Hearing* (*Jan 2011–present*)
- Ad Hoc Reviewer, manuscripts:
 - *Ear and Hearing*
 - *Journal of the Association for Research in Otolaryngology*
 - *Journal of the Acoustical Society of America*
 - *Hearing Research*
 - *Audiology & Neurotology*
 - *American Journal of Audiology*
 - *Archives of Otolaryngology-Head & Neck Surgery*
 - *Volta Review*
 - *International Journal of Audiology*
 - *Perspectives on Aural Rehabilitation and Its Instrumentation (ASHA SIG 7)*
 - *Communication Disorders Quarterly*
- Ad Hoc Reviewer, grants:
 - *National Institutes of Health, National Institute on Deafness and Other Communication Disorders (NPP contracts, SBIR-STTR, P50 grants, R21 grants, K grants, R13 grants)*
 - *The Royal National Institute for Deaf People, United Kingdom*
 - *Great Plains IDeA CTR*
- External promotion and tenure reviewer
 - University of Miami
 - University of Tennessee Health Science Center
 - Mayo Clinic
- ASHA Pathways Reviewer (*Jan 2017, Jan 2018*)
- Organizing Committee, 2021 ASHA Telepractice Special Session
- Steering Committee, 2023 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA.
- Steering Committee, 2021 Conference on Implantable Auditory Prostheses, Virtual Meeting.
- Steering Committee, 2019 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA.
- Steering Committee, 2017 Conference on Implantable Auditory Prostheses, Lake Tahoe, CA.
- Program Planning Committee, 3rd International Internet and Audiology Meeting, Louisville, KY, July 27 – 28, 2017.
- ASHA Pathways Mentor (*July 2016*)
- Member, Clinical Practice Guidelines Task Force for Cochlear Implants, American Academy of Audiology (*Feb 2011 – 2018*)
- Guest Editor, *Ear and Hearing* (*March – Dec 2010*)
- Conference Chair, 3rd Biennial BTNRH/KUMC Auditory Research Conference (*July 24, 2009*)

PROFESSIONAL AFFILIATIONS

- **Auditory Implant Research**, *Board of Directors, July 2019–present*
- **Acoustical Society of America**, *Associate member, April 2006–Dec 2018*
- **American Auditory Society**, *Member, July 2001–present; Editorial Board member, January 2011–present*
- **Contributing Editor (Cochlear Implants), Audiology Online**, *2006 and 2007*
- **State of Nebraska License to Practice Audiology**, *License #225, October 2003–present*
- **State of Iowa License to Practice Audiology**, *License #432, October 1997–December 2003*
- **ASHA Certificate of Clinical Competence in Audiology**, *August 1997–present*
- **American Speech-Language and Hearing Association**, *Member, January 1996–present*
- **American Academy of Audiology**, *Fellow, March 1996–2021*
- **National Student Speech-Language Hearing Association**, *Member, October 1992–December 1995. Social Committee Co-Chair, January–December 1995*