

Lori L. Holt

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	www.psy.cmu.edu/~holtlab/ loriholt@cmu.edu	
EDUCATION	Ph.D., Department of Psychology Cognitive Psychology, Neurophysiology Minor University of Wisconsin-Madison	1995-1999
	Thesis: <i>Auditory Constraints on Speech Perception: An Examination of Spectral Contrast</i> B.S. Department of Psychology University of Wisconsin-Madison	1991-1995
EMPLOYMENT	Professor Department of Psychology Carnegie Mellon University, Pittsburgh, PA	2010-present
	Affiliated Faculty, Member Executive Committee Center for the Neural Basis of Cognition Carnegie Mellon University & University of Pittsburgh	1999-present
	Adjunct Professor Department of Neuroscience University of Pittsburgh, Pittsburgh, PA	2011-present
	Training Faculty Member Center for Neuroscience, University of Pittsburgh University of Pittsburgh, Pittsburgh, PA	2012-present
	Associate Professor, Tenured Department of Psychology Carnegie Mellon University, Pittsburgh, PA	2006-2010
	Associate Professor, Untenured Department of Psychology Carnegie Mellon University, Pittsburgh, PA	2004-2006
	Assistant Professor Department of Psychology Carnegie Mellon University, Pittsburgh, PA	1999-2004
	National Science Foundation Predoctoral Fellow University of Wisconsin-Madison	1995-1999

**AWARDS &
HONORS**

Graduate Research Assistant Department of Psychology, Dr. Keith Kluender University of Wisconsin-Madison	1995-1999
Graduate Research Assistant Department of Neurophysiology, Dr. William Rhode University of Wisconsin-Madison	1998-1999
James McKeen Cattell Sabbatical Award	2015
Troland Research Award, National Academy of Sciences	2013
Association for Psychological Science Fellow	2011
Virginia W. Toomey Award in Auditory Science	2008
Association for Psychological Science "Rising Star" in Psychology	2007
Evie and Ron Krancer Award in Auditory Science	2007
Dennis Klatt Research in Speech Science Award American Speech Language and Hearing Association	2002
14 th Annual Beckman Frontiers of Science Symposium Invitee, National Academy of Sciences	2002
21 st Century Scientist Award – Bridging Mind, Brain & Behavior, James S. McDonnell Foundation	2002-2006
Acoustical Society Young Investigator Award Acoustical Society of America	1999
Henry Vilas Professional Development Fellowship University of Wisconsin	1999
National Science Foundation Predoctoral Research Fellowship	1995-1998
Ruth G. & Joseph D. Matarazzo Research Award American Psychological Foundation	1998
Sigma Xi Grants-In-Aid of Research Award National Sigma Xi Chapter	1998
Royalty Research Award, University of Wisconsin	1997
M. Schwartz Experimental Psychology Fellow University of Wisconsin	1997

Roderick Menzies Graduate Fellowship University of Wisconsin	1996
Henry Vilas Fellowship, University of Wisconsin	1995
Phi Beta Kappa	1995
Herfurth Award to Outstanding Senior Woman University of Wisconsin	1994
Gilchrist Undergraduate Research Award University of Wisconsin	1994
Hilldale Undergraduate Research Award, University of Wisconsin	1994
Psi Chi Undergraduate Research Award, University of Wisconsin	1994
Ferdinand Plaenert Scholarship, University of Wisconsin	1991
Academic Excellence Scholarship, State of Wisconsin	1991

MEMBER

Acoustical Society of America, Cognitive Neuroscience Society, Psychonomic Society, Cognitive Science Society, American Psychological Society

**EDITORIAL
ACTIVITIES**

Editorial Boards:

Open Mind (Associate Editor)
Psychological Review
Psychonomic Bulletin & Review
Journal of Experimental Psychology: General
*Review Editorial Board of Frontiers in Auditory
Cognitive Neuroscience*
Attention, Perception & Psychophysics

Ad Hoc Reviewer of Submitted Manuscripts:

<i>Acoustic Research Letters Online</i>	<i>Journal of Phonetics</i>
<i>Animal Cognition</i>	<i>Language and Cognitive Processes</i>
<i>Brain and Language</i>	<i>Language and Speech</i>
<i>Cerebral Cortex</i>	<i>Memory and Cognition</i>
<i>Cognition</i>	<i>Nature Reviews Neuroscience</i>
<i>Cognitive, Affective, and Behavioral Neuroscience</i>	<i>Perception & Psychophysics</i>
<i>Cognitive Brain Research</i>	<i>Phonetica</i>
<i>Cognitive Psychology</i>	<i>PLoS One</i>
<i>Cortex</i>	<i>Psychonomic Bulletin and Review</i>
<i>Cognitive Science</i>	<i>Psychological Review</i>
<i>Current Directions in Psychological Science</i>	<i>Speech Communication</i>
<i>Developmental Psychobiology</i>	

Journal of the Acoustical Society of America *Frontiers in Auditory Cognitive*
Journal of Experimental Psychology: Human *Neuroscience*
Perception & Performance
Journal of Memory and Language
Frontiers in Perceptual Sciences

Reviewer of Grant Proposals:

National Science Foundation, National
Institutes of Health, Autism Now Foundation,
Wellcome Trust

**OTHER
PROFESSIONAL
ACTIVITIES**

Co-director with Dr. Julie Fiez, **NIH (NIGMS) T32 Training Grant**, T32GM081760, **Predoctoral Training at the Interface of the Behavioral and Biomedical Sciences**. Funded since 2007, with 19 current and past graduate trainees. Speech Communication Technical Committee Member, Acoustical Society of America

Organizing Committee, 143rd Meeting of the Acoustical Society of America, Pittsburgh, PA, June, 2002

Organizing Committee, International Conference on Spoken Language Processing (ICSLP/INTERSPEECH 2006, Pittsburgh, PA)

Conference Organizing Committee, Advances and Perspectives in Auditory Neuroscience (APAN), 2016-present

Chair, Young Investigator Award Committee, Advances and Perspectives in Auditory Neuroscience (APAN), 2017

**PENDING
GRANT SUPPORT**

Co-Investigator with Principal Investigator Dr. Seth Weiner, Carnegie Mellon University, **Examining the impact of non-linguistic incidental auditory category training on adult language acquisition**,

Principal Investigator with Dr. Andrew Lotto, University of Florida, **Incidental auditory category learning**.

Principal Investigator with Drs. Frederic Dick and Adam Tierney, **Optimizing dimension-based attention in complex acoustic environments: Biomarkers of individual differences in ability and plasticity**, Air Force Office of Sponsored Research.

Co-Investigator with Principal Investigators Dr. Helen Tager-Flusberg and Dr. Barbara Shinn-Cunningham, **Mechanisms and modulation of language in minimally verbal ASD**, National Institutes of Health.

Principal Investigator with Drs. Frederic Dick and Adam Tierney, Birkbeck College (London). **Optimizing dimension-based attention in complex acoustic environments: Biomarkers of individual differences in ability and plasticity**. Air Force Office of Sponsored Research.

Principal Investigator with Drs. Frederic Dick and Adam Tierney, Birkbeck College, University of London, **Neurobiological mechanisms and behavioral outcomes of training sustained auditory selective attention**, National Institutes of Health.

**ONGOING
GRANT SUPPORT**

Principal Investigator, **Formation and tuning of complex auditory categories**, National Institutes of Health, 3R01DC004674-09, funded continuously 09/01/01 through 01/31/2016; current project period \$1,250,000 over 5 years.

Co-Director with Dr. Julie Fiez, University of Pittsburgh, **Predocutorial Training Program in Behavioral Brain Research (T32)**, T32GM081760, National Institute of General Medical Sciences, Institutional NRSA Award, 7/1/2007-6/30/2022.

Co-Investigator with Drs. Yafit Gabay and Avi Karni, **The dynamics of procedural auditory category learning in developmental dyslexia**. Binational Science Foundation, 01/2017-12/2019, \$151,200.

Principal Investigator with Drs. Yafit Gabay and Avi Karni, **NSF/SBE-BSF: Trajectories of acquisition, consolidation and retention in incidental auditory category learning**, National Science Foundation.

**PAST GRANT
SUPPORT**

Principal Investigator with Doctoral Student Ran Liu, **Doctoral Dissertation Research: Investigating generalization, transfer, and representation resulting from non-native speech category training**. December 2015.

Principal Investigator, **Uncovering the Neural Basis of Auditory Expertise**, Berkman Faculty Development Fund, \$6250, January 2007.

Principal Investigator, **Electrophysiological Investigations of Auditory Cognition**, Pilot Imaging Program, Department of Radiology Magnetic Resonance Research Center, University of Pittsburgh, \$7650, January 2008.

Principal Investigator, **Examining context-dependent speech categorization in human listeners using magnetoencephalography (MEG)**, National Organization for Hearing Research, submitted January 2008, \$20,000 over 1 year. Winner of the 2008 Virginia W. Toomey Award in Auditory Science.

Principal Investigator with co-Investigator Dr. Kaori Idemaru, **Development of Eyetracking Methodology to Investigate Cue Weighting in Auditory Categorization**, National Organization for Hearing Research, \$20,000, 2/2007-2/2008. Winner of the 2007 Evie and Ron Krancer Award in Auditory Science.

Co-Investigator with Dr. Sheila Pratt, University of Pittsburgh, Dr. Diane Sabo, Children's Hospital, and Dr. Suzanne Curtin, University of Calgary, **Behavioral Investigations of Vowel Perception in Infants With and Without Hearing Impairment**, \$20,000, National Organization of Hearing Research.

Co-Investigator with Dr. Suzanne Curtin, University of Calgary and Dr. Scott Kiesling, University of Pittsburgh, **Cognitive and Social Development in Linguistic Change: A Pilot Study**, National Science Foundation, awarded, \$124,853, 08/31/05-08/31/2007 (no-cost extension to 08/2008).

Principal Investigator, Learning Complex Auditory Categories, National Science Foundation, renewal, \$629,666, BCS-0345773, 04/01/2001-03/31/2011.

Principal Investigator, Learning Complex Auditory Categories, National Institutes of Health (R01), \$237,000 over 4 years, 09/01/01-08/31/05.

Principal Investigator, Converging Models of the Influence of Experience upon Perception, Bridging Mind, Brain, & Behavior, 21st Century Scientist Award from the James S. McDonnell Foundation. \$449,515 over 3 years, 03/01/01-02/28/04.

Principal Investigator, An Investigation of the Perceptual and Learning Influences of Phonetic Category Formation, American Speech-Language-Hearing Association (Dennis Klatt Memorial Award), \$5,000, 10/24/02.

Principal Investigator, Learning Complex Auditory Categories, National Science Foundation, \$295,656 over 2 years, 09/01/01-8/31/04.

Principal Investigator, Spectral-temporal Boundaries of Perceptual Contrast: Developing the Gerbil as a Behavioral Model of Speech Perception, National Organization of Hearing Research, \$10,000, 1/15/01-1/14/02.

Principal Investigator, Developing the gerbil (*Mericones unguiculatus*) as an integrated model of speech perception, Deafness Research Foundation. \$20,000, 1/1/00-12/31/01.

Principal Investigator, Investigating the Role of Learning in Language Acquisition, Faculty Development Grant, Carnegie Mellon University \$6450, 12/01/99.

Co-Investigator, Models of Multimodal Interactive Language Learning, Riksbankens Jubileumsfond, The Bank of Sweden Tercentenary Foundation, in collaboration with Dr. Francisco Lacerda and Dr. Ulla Sundberg of University of Stockholm and Dr. Rolf Carlson of KTH, Swedish Royal Institute of Technology, \$745,000 over 5 years for CMU segment of the project, 01/01/04-12/31/09.

Principal Investigator, Learning to accommodate variation in speech input, National Science Foundation, \$500,000 over 3 years, 10/01/09-09/30/12 (no cost extension to 09/30/13).

MANUSCRIPTS

(data/analyses complete, manuscripts in preparation)

Predicting online sound categorization performance, with Drs. Sung-joo Lim & Andrew Lotto

Tracking the input: infants' and adults' sensitivity to distributions of sounds. With Drs. Suzanne Curtin, Ran Liu

Context-dependent modulation of striatal systems during incidental auditory category learning, with Drs. Sung-joo Lim, Julie Fiez

Recruitment of speech-sensitive cortical regions by nonspeech sound category expertise requires distributional structure of category exemplars, with Drs. Sung-joo Lim, Julie Fiez

Dyslexics readers use spectral information embedded in context to guide phoneme categorization, with Dr. Yafit Gabay

Adaptation of speech perception is impaired among adults with dyslexia, with Dr. Yafit Gabay

PEER-REVIEWED PUBLICATIONS, submitted for review

Haigh, S. M., Laher, R. M., Murphy, T. K., Coffman, B. A., Ward, K. L., Leiter-McBeth, J. R., Holt, L. L., & Salisbury, D. F. (*submitted*). **Normal Categorical Perception to Syllable-like Stimuli in Long Term and in First Episode Schizophrenia**

Idemaru, K., & Holt, L. L. (*submitted*). **Generalization of dimension-based statistical learning.**

Reinisch, E. & Holt, L. L. (*in revision*). **Integration of acoustic and lexical context information in phonetic categorization.**

Holt, L. L. Huang, J., & Lotto, A. J. (*submitted*). **Harry Potter and the sorcerer's spectrum: the long-term average spectrum of audiobooks calibrates speech perception.**

Lim, R. & Holt, L. L. (*submitted*). **Investigating the role of variability in incidental learning of Mandarin lexical tone categories.**

Roark, C. & Holt, L. L. (*submitted*). **Task, Category Overlap, and Stimulus Distribution Affect Auditory Category Learning.**

Zhang, X. & Holt, L. L. (*submitted*). **Simultaneous Tracking of Co-evolving Distributional Regularities in Speech**

Liu, R. & Holt, L. L. (*in revision*). **Incidental Training in a Videogame Improves Non-native Speech Perception and Transfers to Word Learning**

Burkinshaw, K., Curtin, S., & Holt, L. L. (*submitted*). **Vowel Space and Variability in Infant- and Adult-directed Speech**

Zhang, X. & Holt, L. L. (*in revision*). **The Learning Signal in Perceptual Tuning of Speech: Bottom-Up vs. Top-Down Information**

PEER-REVIEWED PUBLICATIONS, accepted or in press

Dick, F. K., Lehet, M. I., Callaghan, M. F., Keller, T. A., Sereno, M. I., & Holt, L. L. (*In press*) **Extensive tonotopic mapping across auditory cortex is recapitulated by spectrally-directed attention, and systematically related to cortical myeloarchitecture.** *Journal of Neuroscience.*

**PEER-REVIEWED
PUBLICATIONS**

Lehet, M. & Holt, L. L. (2016). **Dimension-based statistical learning affects both speech perception and speech production.** *Cognitive Science*, 10.1111/cogs.12413.

Guediche, S., Fiez, J. A., & Holt, L. L. (2016). **Adaptive plasticity in speech perception: effects of external information and internal predictions.** *Journal of Experimental Psychology: Human Perception & Performance*, 42, 1048-1059. PMC4925215

Lotto, A. J. & Holt, L. L. (2015). **The Frame Problem in speech communication: Defining the dimensional space for phonetic categorization.** Topics in Speech Processes: Language Production and Perception, *Festschrift in Honor of Harvey Sussman*.

Gabay, Y., & Holt, L. L. (2015). **Incidental learning of sound categories is impaired in developmental dyslexia.** *Cortex*, 73, 131-143.

Lotto, A. J., & Holt, L. L. (2015). **Speech perception: The view from the auditory system.** In G. Hickok and S. Small (Eds). *The Neurobiology of Language*. Academic Press.

Liu, R. & Holt, L. L. (2015). **Dimension-based statistical learning of vowels.** *Journal of Experimental Psychology: Human Perception & Performance*. ePub ahead of print.

Gabay, Y., Dick, F., Zevin, J. D., & Holt, L. L. (2015). **Incidental auditory category learning.** *Journal of Experimental Psychology: Human Perception & Performance*, 41, 1124-1138. PMC4516559.

Lim, S. -J., Lacerda, F., & Holt, L. L. (2015). **Discovering functional units in continuous speech.** *Journal of Experimental Psychology: Human Perception & Performance*, 41, 1139-1152.

Gabay, Y., Vakil, E., Schiff, R., & Holt, L. L. (2015). **Probabilistic category learning in developmental dyslexia: Evidence from feedback and paired-associate tasks.** *Neuropsychology*. ePub ahead of print.

Gabay, Y., Thiessen, E. D., & Holt, L. L. (2015). **Impaired statistical learning in developmental dyslexia.** *Journal of Speech, Language and Hearing Research*, 58, 934-945. PMC4490081.

Klatzky, R., Holt, L. L., & Behrmann, M. (2015). **Representation of women in Cognition.** *Cognition*, 141, 170-171.

Guediche, S., Holt, L. L., Laurent, P., Lim, S. -J., & Fiez, J. (2015). **Evidence for cerebellar contributions to adaptive plasticity in speech perception.** *Cerebral Cortex*, 25, 1867-77. PMC4481605.

Lim, S.-J., Fiez, J. & Holt, L. L. (2014). **How may the basal ganglia contribute to auditory categorization and speech perception?** *Frontiers in Neuroscience*, 8, 230. PMC4117994.

Reinisch, E., Wozny, D. R., Mitterer, H., & Holt, L. L. (2014). **Phonetic category recalibration: what are the categories?** *Journal of Phonetics*, 45, 91-105. PMC4052890.

Holt, L. L. & Lotto, A. J. (2014). **Commentary: The alluring but misleading analogy between mirror neurons and the motor theory of speech.** *Behavioral and Brain Sciences*, 37, 204-205.

Idemaru, K. & Holt, L. L. (2014). **Specificity of dimension-based statistical learning in word recognition.** *Journal of Experimental Psychology: Human Perception & Performance*. 40, 1009-1021. PMC4241634.

Reinisch, E. & Holt, L. L. (2014). **Lexically-guided phonetic retuning of foreign-accented speech and its generalization.** *Journal of Experimental Psychology: Human Perception & Performance*, 40, 539-555. PMC3962813.

Guediche, S., Blumstein, S., Fiez, J. A. & Holt, L. L. (2014). **Speech perception under adverse conditions: Insights from behavioral, computational, and neuroscience research.** *Frontiers in Systems Neuroscience*, 7, 126. PMC3879477.

Hufnagle, D. G., Holt, L. L. & Thiessen, E. (2013). **Spectral information in nonspeech contexts influences children's categorization of ambiguous speech sounds.** *Journal of Experimental Child Psychology*, 116, 728-737. PMC3775975.

Idemaru, K. & Holt, L. L. (2013). **The long developmental trajectory of children's perception and production of English /r-/l/.** *Journal of the Acoustical Society of America*, 133, 4232-4246. PMC3689790.

Idemaru, K. Holt, L. L., & Seltman, H. (2012). **Individual differences in cue weights are stable across time: the case of Japanese stop lengths.** *Journal of the Acoustical Society of America*, 132, 3950-3964. PMC3528741.

Laing, E. J. C., Liu, R., Lotto, A. J., & Holt, L. L. (2012). **Tuned with a tune: talker normalization via general auditory processes.** *Frontiers in Psychology*, 3, 203. doi: 10.3389/fpsyg.2012.00203. PMC3381219.

Huang, J. & Holt, L.L. (2012). **Listening for the norm: adaptive coding in speech categorization.** *Frontiers in Perception Science*, 3:10. PMC3078024.

Ingvalson, E. M., Holt, L. L., & McClelland, J. L. (2011). **Can native Japanese listeners learn to differentiate /r-l/ on the basis of F3 onset frequency?** *Bilingualism: Language and Cognition*, 15, 255-274. PMC3538861.

Idemaru, K. & Holt, L. L. (2011). **Word recognition reflects dimension-based statistical learning.** *Journal of Experimental Psychology: Human Perception & Performance*, 37, 1939-1956. PMC3285244.

Lim, S. -J. & Holt, L. L. (2011). **Learning foreign sounds in an alien world: video game training improves non-native speech categorization.** *Cognitive Science*, 35, 1390-1405. PMC3166392.

Ingvalson, E.M., McClelland, J. L., & Holt, L. L. (2011). **Predicting native English-like performance by native Japanese speakers.** *Journal of Phonetics*, 39, 571-584. PMC3196605.

Stephens, J. D. W., & Holt, L. L. (2011). **A standard set of American-English voiced stop-consonant stimuli from morphed natural speech.** *Speech Communication*, 53, 877-888. PMC3110698.

Huang, J. & Holt, L. L. (2011). **Evidence for the central origin of lexical tone normalization.** *Journal of the Acoustical Society of America*, 129, 1145-1148. PMC3078024.

Liu, R. & Holt, L. L. (2011). **Changes in mismatch negativity reflecting the acquisition of complex, non-speech auditory categories.** *Journal of Cognitive Neuroscience*, 23, 683-698. PMC2945418.

Stephens, J. D. W. & Holt, L. L. (2010). **Learning novel artificial visual cues for use in speech identification.** *Journal of the Acoustical Society of America*, 128, 2138-2149. PMC2981124.

Holt, L. L. & Lotto, A. J. (2010). **Speech perception as categorization.** *Attention, Perception & Psychophysics*, 72, 1218-1227, PMC2921848.

Ming, V. & Holt, L. L. (2009). **Efficient coding in human auditory perception.** *Journal of the Acoustical Society of America*, 126, 1312-1320. PMC2809690.

Huang, J. & Holt, L. L. (2009). **General perceptual contributions to lexical tone normalization.** *Journal of the Acoustical Society of America*, 125, 3983-3994. PMC2806435.

Leech, R., Holt, L. L., Devlin, J. T., Dick, F. (2009). **Expertise with artificial non-speech sounds recruits speech-sensitive cortical regions.** *Journal of Neuroscience*, 29, 5234–5239. PMC2747609.

Lotto, A. J., Hickok, G. S., & Holt, L. L. (2009). **Reflections on mirror neurons and speech perception.** *Trends in Cognitive Science*, 13, 110-114, PMC2921844.

Hickok, G., Holt, L. L. & Lotto, A. J. (2009). **Response to Wilson: What does motor cortex contribute to speech perception?** *Trends in Cognitive Sciences*, 13, 330-331.

Mirman, D., McClelland, J. L., Holt, L. L., and Magnuson, J. S. (2008). **Effects of attention on the strength of lexical influences on speech perception: Behavioral experiments and computational mechanisms.** *Cognitive Science*, 32, 398-417. PMC2396758.

Holt, L. L. & Lotto, A. J. (2008). **Speech perception within an auditory cognitive science framework.** *Current Directions in Psychological Science*, 17, 42-46. PMC2593873.

Mirman, D., McClelland, J. L. & Holt, L. L. (2006). **An interactive Hebbian account of lexically guided tuning of speech perception.** *Psychonomic Bulletin and Review*, 13, 958-965. PMC2291357.

McClelland, J. L., Mirman, D., & Holt, L. L. (2006). **Are there interactive processes in speech perception?** *Trends in Cognitive Science*, 10, 363-369.

Mirman, D., McClelland, J. L., & Holt, L. L. (2006). **Response to McQueen et al.: Theoretical and empirical arguments support interactive processing.** *Trends in Cognitive Sciences*, 10, 534.

Lotto, A. J. & Holt, L. L. (2006). **Putting phonetic context effects into context: A commentary on Fowler (2005).** *Perception & Psychophysics*, 68, 178-183. PMC177095.

Holt, L. L. & Lotto, A. J. (2006). **Cue weighting in auditory categorization: Implications for first and second language acquisition.** *Journal of the Acoustical Society of America*, 119, 3059-3071.

Holt, L. L. (2006b). **The mean matters: Effects of statistically-defined non-speech spectral distributions on speech categorization.** *Journal of the Acoustical Society of America*, 120, 2801-2817. PMC1635014.

Holt, L. L. (2006a). **Speech categorization in context: joint effects of non-speech and speech precursors.** *Journal of the Acoustical Society of America*, 119, 4016-4026. PMC1633715.

Holt, L. L., Stephens, J. D. W., & Lotto, A. J. (2005). **A critical evaluation of visually-moderated phonetic context effects.** *Perception & Psychophysics*, 67, 1102-1112.

Wade, T. & Holt, L. L. (2005c). **Perceptual effects of preceding non-speech rate on temporal properties of speech categories.** *Perception & Psychophysics*, 67, 939-950.

Wade, T. & Holt, L. L. (2005b). **Incidental categorization of spectrally complex non-invariant auditory stimuli in a computer game task.** *Journal of the Acoustical Society of America*, 118, 2618-2633.

Wade, T. & Holt, L. L. (2005a). **Effects of later-occurring non-linguistic sounds on speech categorization.** *Journal of the Acoustical Society of America*, 118, 1701-1710.

Holt, L. L. (2005). **Temporally non-adjacent non-linguistic sounds affect speech categorization.** *Psychological Science*, 16, 305-312.

Mirman, D., McClelland, J. M. & Holt, L. L. (2005). **Computational and behavioral investigations of lexically induced delays in phoneme recognition.** *Journal of Memory and Language*, 52, 424-443.

Holt, L. L., Lotto, A. J. & Diehl, R. L. (2004). **Auditory discontinuities interact with categorization: Implications for speech perception.** *Journal of the Acoustical Society of America*, 116, 1763-1773.

Mirman, D., Holt, L. L., & McClelland, J. M. (2004). **Categorization and discrimination of non-speech sounds: Differences between steady-state and rapidly-changing acoustic cues.** *Journal of the Acoustical Society of America*, 116, 1198-1207.

Pollak, S. D., Holt, L. L., & Wismer Fries, A. B. (2004). **Hemispheric asymmetries in children's perception of human affective sounds.** *Developmental Science*, 7, 10-18.

Diehl, R. L., Lotto, A. J. & Holt, L. L. (2004). **Speech perception.** *Annual Review of Psychology*, 55, 149-179.

Stephens, J. D. & Holt, L. L. (2003). **Preceding phonetic context affects perception of non-speech.** *Journal of the Acoustical Society of America*, 114, 3036-3039.

Lotto, A. J., Sullivan, S. C., & Holt, L. L. (2003). **Central locus for non-speech effects on phonetic identification.** *Journal of the Acoustical Society of America*, 113, 53-56.

Holt, L. L. & Lotto, A. J. (2002). **Behavioral examinations of the neural mechanisms of speech context effects.** *Hearing Research*, 167, 156-169.

Holt, L. L., Lotto, A. J., & Kluender, K. R. (2001). **Influence of fundamental frequency on stop-consonant voicing perception: A case of learned covariation or auditory enhancement?** *Journal of the Acoustical Society of America*, 109, 764-774.

Holt, L. L. & Kluender, K. R. (2000). **General auditory processes contribute to perceptual accommodation of coarticulation.** *Phonetica*, 57, 170-180.

Holt, L. L., Lotto, A. J., & Kluender, K. R. (2000). **Neighboring spectral content influences vowel identification.** *Journal of the Acoustical Society of America*, 108, 710-722.

Kluender, K. R., Lotto, A. J., Holt, L. L., & Bloedel, S. B. (1998). **Role of experience in language-specific functional mappings for vowel sounds as inferred from human, nonhuman, and computational models.** *Journal of the Acoustical Society of America*, 104, 3568-3582.

Lotto, A. J., Kluender, K. R., & Holt, L. L. (1998). **Depolarizing the perceptual magnet effect.** *Journal of the Acoustical Society of America*, 103, 3648-3655.

Lotto, A. J., Kluender, K. R., & Holt, L. L. (1997b). **Effect of voice quality on perceived height of English vowels.** *Phonetica*, 54, 76-93.

**CHAPTERS and
PROCEEDINGS
PAPERS**

Lotto, A. J., Kluender, K. R., & Holt, L. L. (1997a). **Perceptual compensation for coarticulation by Japanese quail (*Coturnix coturnix japonica*)**. *Journal of the Acoustical Society of America*, 102, 1134-1140.

Holt, L. L. & Idemaru, K. (2015). Generalization of dimension-based statistical learning: context matters. *Proceedings of the International Congress of Phonetic Sciences*, Glasgow, 2015.

Kimball, G., Cano, R., Feng, J., Feng, L., Hampson, E., Li, E., Christel, M. G., Holt, L. L., Lim, S.-J., Liu, R., Lehet, M. (2013). Supporting research into sound and speech learning through a configurable computer game. *Proceedings of the IEEE Games Innovation Conference (IGIC)*, Vancouver, 2013.

Holt, L. L. & Idemaru, K. (2011). Generalization of dimension-based statistical learning. *Proceedings of the International Congress of Phonetic Sciences*, Hong Kong, 2011.

Idemaru, K. & Holt, L. L. (2011). Production and perception of English /l/ and /r/ by 4-, 5- and 8-year-old children. *Proceedings of the International Congress of Phonetic Sciences*, Hong Kong, 2011.

Ingvalson, E. & Holt, L. L. (2011). Perception-production relationships for /r-l/ by native Japanese speakers. *Proceedings of the International Congress of Phonetic Sciences*, Hong Kong, 2011.

Holt, L. L. (2011). How perceptual and cognitive constraints affect learning of speech categories. In Abigail Cohn, Cécile Fougeron and Marie Huffman (Eds.), *Handbook of Laboratory Phonology*, Oxford University Press.

Lotto, A. J. & Holt, L. L. (2010). Psychology of auditory perception. *Wiley Interdisciplinary Reviews: Cognitive Science*, pp. 1939-5086. John Wiley & Sons, Inc. DOI: 10.1002/wcs.123

Holt, L. L. & Idemaru, K. (2010). Speech Perception. In Irving B. Weiner & W. Edward Craighead, (Eds.), *Corsini's Encyclopedia of Psychology*, Fourth Edition. Wiley.

Holt, L. L. (2010). Psychophysics of Speech. In P. Hogan, (Ed.), *Cambridge Encyclopedia of the Language Sciences*. University of Connecticut.

Holt, L. L. (2008). Speech Perception: Adult. In Larry R. Squire, Editor-In-Chief, *Encyclopedia of Neuroscience*, Vol. 9, Academic Press, Oxford, pp. 219-226.

Idemaru, K. & Holt, L. L. (2007). Relational timing or absolute duration? Cue weighting in the perception of Japanese singleton-geminate stops. *International Congress of Phonetic Sciences 2007*.

Mirman, D., McClelland, J. L., & Holt, L. L. (2006). Attentional modulation of lexical effects on speech perception: Computational and behavioral

experiments. Proceedings of the 28th Annual Conference of the Cognitive Science Society.

Kluender, K. R., Lotto, A. J., & Holt, L. L. (2005). Contributions of nonhuman animal models to understanding human speech perception. In S. Greenberg and W. Ainsworth (Eds.) Listening to Speech: An Auditory Perspective, Oxford University Press: New York, NY.

Lacerda, F., Sundberg, U., Carlson, R. & Holt, L. L. (2004). Modeling interactive language learning: Project presentation. Proceedings of FONETIK 2004.

Holt, L. L. & Wade, T. (2004). Non-linguistic sentence-length precursors affect speech perception: implications for speaker and rate normalization. Proceedings of From Sound to Sense: Fifty+ Years of Discoveries in Speech Communication.

Lotto, A. J., & Holt, L. L. (2000). The illusion of the phoneme. In S. J. Billings, J. P. Boyle, & A. M. Griffith (Eds.), Chicago Linguistic Society, Volume 35: The Panels. Chicago: Chicago Linguistic Society, 191-204.

Lotto, A.J., Kluender, K.R., & Holt, L.L. (2000). Effects of language experience on perceptual organization of vowel sounds. In M. Broe & J. Pierrehumbert (Eds.), Laboratory Phonology V: Language Acquisition and the Lexicon, pp. 219-228, Cambridge University Press: Cambridge.

Holt, L. L., Lotto, A. J., & Kluender, K. R. (1998). Incorporating principles of general learning in theories of language acquisition. In M. Gruber, C. Derrick Higgins, K. S. Olson & T. Wysocki (Eds.), Chicago Linguistic Society, Volume 34: The Panels. Chicago: Chicago Linguistic Society, 253-268.

Lotto, A. J., Kluender, K. R., & Holt, L. L. (1997). Animal models of speech perception phenomena. In K. Singer, R. Eggert, & G. Anderson (Eds.), Chicago Linguistic Society, Volume 33, 357-367, Chicago Linguistic Society: Chicago, IL.

Kluender, K. R., Lotto, A. J., & Holt, L. L. (1995). Effect of voice quality on the tense/lax distinction for English vowels. Proceedings of the International Congress of Phonetic Sciences, 4, 164-167.

**CONFERENCES &
INVITED
PRESENTATIONS**

Roark, C. & Holt, L. L. Reward history associated with acoustic dimensions impacts auditory category learning. 58th Annual Meeting of the Psychonomic Society, Vancouver, CA. November 2017.

Lipski WJ, Alhourani A, Pirnia T, Jones PW, Dastolfo-Hromack C, Helou LB, Crammond DJ, Shaiman S, Dickey MW, Holt LL, Litman D, Turner RS, Fiez JA, Richardson RM. Speech encoding in the human subthalamic nucleus. Society for Neuroscience, Washington, DC. November 2017.

Holt, L. L. Incidental auditory category learning. International Conference on Auditory Cortex, Banff, Canada. September, 2017.

Dick, F. K., Lehet, M. I., Callaghan, M. F., Keller, T. A., Sereno, M. I. & Holt, L. L. Spectrally-directed attention in human auditory cortex is topographically organized and related to myeloarchitecture. International Conference on Auditory Cortex, Banff, Canada. September, 2017.

Holt, L. L., Mukundan, R., Kim, Na-Yeon, Christel, M., Dick, F., Shinn-Cunningham, B., Tager-Flusberg, H. Training Auditory Attention with Engaging Online Games. The 2017 Games for Change Festival, New York, July 2017.

Holt, L. L. Stability and plasticity in speech perception. University of Oregon, Department of Linguistics Colloquium, May 2017.

Holt, L. L. Using speech to listen in on auditory learning. University of Oregon, Neuroscience Institute Colloquium, May 2017.

Holt, L. L. Listening in on auditory learning. Johns Hopkins University, Baltimore, April 2017.

Holt, L. L. Using speech to listen in on auditory learning. Carnegie Mellon University, Pittsburgh, PA, April 2017.

Holt, L. L. Using speech to listen in on auditory learning. Washington University, St. Louis, Missouri, April 2017.

Burkinshaw, K., Curtin, S., & Holt, L. L. Speech sound variability and infant speech perception. 35th West Coast Conference on Formal Linguistics (WCCFL), University of Calgary, April 2017.

Holt, L. L. Using speech to listen in on auditory processing. Distinguished Lecture Series, Harvard-MIT, Boston, MA, March 2017.

Gabay, Y., & Holt, LL. (March, 2017). Online Perceptual Learning across Distorted Speech Input is Disrupted in Developmental Dyslexia. Research Workshop of the Israeli Science Foundation on Procedural and Declarative Memory, Language Acquisition, and Cognitive Processes: Developmental Trajectories and Impairments in Monolingual and Bilingual Children, Bar-Ilan, Ramat-Gan, Israel. March, 2017.

Holt, L. L. Using speech to listen in on auditory processing. University of Pittsburgh Communications Disorders Reading Group, March 2017.

Wu, Y. & Holt L. L. Error-driven learning in online speech perception. Association for Research in Otolaryngology, Baltimore, MD, February 2017.

Holt, L. L. rapid learning updates the mapping of input to auditory objects according to short-term input statistics. Association for Research in Otolaryngology, Baltimore, MD, February 2017.

Holt, L. L. It's Always Sunny In Gainesville: Dyslexia and Probabilistic Category Learning. Auditory Cognitive Neuroscience Society, Gainesville, FL., January 2017.

Holt, L. L. Auditory learning in an 'alien world.' University of Wisconsin, Madison, WI. November 2016.

Holt, L. L. Auditory learning in an 'alien world.' University of Pittsburgh, Pittsburgh, PA. October 2016.

Holt, L. L. Speech Perception. Center for Hearing Research 11th Annual Research Symposium, *From Sound to Comprehension: How We Make Use of Acoustic Information to Understand Speech and other Natural Sounds*. University of California-Irvine. May 2016. (Keynote)

Holt, L. L. Sticking it to Vision. Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2016.

Roark, C.L. & Holt, L. L. The role of perceptual dimensions in auditory category learning. 56th Annual Meeting of the Psychonomics Society, Chicago, IL. November 2015.

Holt, L. L. Using speech to listen in on auditory learning. Center for Perceptual Sciences Colloquium, University of Texas-Austin. Austin, TX, November 2015.

Dick, F.K., Lehet, M., & Holt, L. L. Topographic representation of frequency-selective attention in human auditory cortex. Podium Presentation. Society for Neuroscience, Chicago, IL, October 2015.

Holt, L. L. Incidental auditory category learning. Invited podium contribution in Minisymposium. Society for Neuroscience, Chicago, IL, October 2015.

Dick, F.K., Lehet, M., & Holt, L. L. Topographic representation of frequency-selective attention in human auditory cortex. *Advances and Perspectives in Auditory Neuroscience*, Chicago, IL, October 2015.

Roark, C.L. & Holt, L. L. Effects of extended training on an incidental auditory category learning task. Society for the Neurobiology of Language, Chicago, IL, October 2015.

Dick, F. K., Lehet, M., & Holt, L.L. Topographic representation of frequency-selective attention in human auditory cortex. Society for the Neurobiology of Language, Chicago, IL, October 2015.

Holt, L. L. & Idemaru, K. (2015). Generalization of dimension-based statistical learning: context matters. *Proceedings of the International Congress of Phonetic Sciences*, Glasgow, 2015.

Holt, L.L. Learning foreign sounds in an alien world. Neural processing in humans, animals and machines (NeuroHAM). Boston University, Center of Excellence for Learning in Education, Science and Technology. June 2015.

Liu, R. & Holt, L. L. Perceptual scaffolding of non-native speech categories through videogame-based training. 169th Meeting of the Acoustical Society of America, Pittsburgh, PA. May 2015.

Roark, C. & Holt, L. L. Rule-based and information-integration categorization during an incidental learning task. 169th Meeting of the Acoustical Society of America, Pittsburgh, PA. May 2015.

Holt, L. L., Gabay, Y., Zevin, J. D., & Dick, F. Incidental auditory category learning. 169th Meeting of the Acoustical Society of America, Pittsburgh, PA. May 2015.

Lehet, M. & Holt, L. L. Adaptation to accent affects categorization, but not basic perceptual representation. 169th Meeting of the Acoustical Society of America, Pittsburgh, PA. May 2015.

Holt, L.L. Auditory cognitive neuroscience as a tool for understanding phonetic perception. Chicago Linguistic Society. Invited speaker. April 2015.

Holt, L.L. Using speech perception to listen in on auditory learning. University of Pittsburgh Medical Center, Grand Rounds. April 2015.

Holt, L. L. What speech reveals about how the auditory processing. University of Pittsburgh, Department of Neurobiology. March 2015.

Holt, L. L. Our Tootsie Pop Problem. Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2015.

Holt, L. L. Learning in an alien world. Multisensory Summit, Boston University, December 2014.

Lim, S. -J., Lotto, A. J., Obleser, J., & Holt, L. L. The development of internal representations of sound categories. Society for the Neurobiology of Language, Amsterdam, August 2014.

Gabay, Y., Schiff, R., Vakil, E., & Holt, L. L. Impaired probabilistic learning mechanisms in developmental dyslexia. International Neuropsychological Society, Jerusalem, Israel 2014.

Holt, L. L. Speech, melodies and invaders from space: What speech reveals about how the auditory system uses the past to interpret the present. Sensory processing: how the past affects the present. In the series *New Ideas in Hearing* of the Institut d'Etude de la Cognition, Paris, November 2013.

Lim, S-J., Fiez, J.A., & Holt, L. L. Investigating the role of speech-selective regions during videogame-based non-speech sound category acquisition, Society for the Neurobiology of Language, San Diego, CA, November 2013.

Lim, S.-J., Holt, L. L., & Fiez, J.A. Context-dependent modulation of striatal systems during incidental auditory category learning. Society for Neuroscience, San Diego, CA, November 2013.

Lehet, M.I., Ly, M. & Holt, L. L. Short-term input regularities impact cue weighting in speech perception and production. Annual Meeting of the Psychonomic Society, Toronto, Ontario, November 2013.

Holt, L. L. Using speech perception to listen in on auditory learning. Invited colloquium at the University of Rochester, October 2013.

Gabay, Y., Dick, F., K., Zevin, J. D., & Holt, L. L. Procedural learning of auditory categories: New evidence from an implicit measure, 20th Anniversary Meeting of the Cognitive Neuroscience Society, San Francisco, CA, April 2013.

Lim, S.-J., Fiez, J. A., Wheeler, M. E., & Holt, L. L. Investigating the neural basis of video-game-based category learning. 20th Anniversary Meeting of the Cognitive Neuroscience Society, San Francisco, CA, April 2013.

Holt, L. L. Learning foreign sounds in an alien world. Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2013.

Idemaru, K. & Holt, L. L. Examining Talker and Phoneme Generalization of Dimension-based Statistical Learning in Speech Perception. SST 2012, 14th Australasian International Conference on Speech Science and Technology. Sydney, Australia, December 2012.

Reinisch, E. & Holt, L. L. Lexically guided category retuning affects low-level acoustic processing. 164th Meeting of the Acoustical Society of America, Kansas City, Missouri, October 2012.

Reinisch, E. & Holt, L. L. Influence of lexical and acoustic context on phonetic categorization depends on listening situation. 164th Meeting of the Acoustical Society of America, Kansas City, Missouri, October 2012.

Reinisch, E. & Holt, L. L. Listening situation modulates lexical and acoustic context effects in phonetic categorization, 2012 Psychonomic Society Annual Meeting, Minneapolis, MN, November 2012.

Holt, L. L., Lim, S.-J., & Liu, R. Learning foreign sounds in an alien world. Invited presentation in the L2 Speech Perception in Richly Informative Environments symposium, Second Language Research Forum: Building Bridges Between Disciplines, SLA in Many Contexts, October 2012.

Idemaru, K., Holt, L. L. & Kapatsinski, V. The time-course of dimension-based statistical learning. Architectures and Mechanisms for Language Processing. Riva del Garda, Italy, September 2012.

Curtin, S., Holt, L., Murphy, A., Hufnagle, D.G. Comparing distributional regularities in speech directed to infants and adults. Talk delivered in the

symposium on Mapping the acoustic landscape of IDS: What are its implications for learning? At the International Conference for Infant Research (ICIS), Minneapolis, Minnesota, June 2012.

Holt, L. L. Learning foreign sounds in an alien world. Invited colloquium at the University of Chicago, May, 2012.

Holt, L. L. Using speech to listen in on auditory processing. Invited speaker at the Sixteenth International Conference on Cognitive and Neural Systems, Boston University, May, 2012.

Holt, L. L. Using speech to listen in on auditory processing. Invited colloquium at the University of Maryland. March, 2012.

Holt, L. L. Dimension-based statistical learning and generalization. Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2012.

Huang, J. & Holt, L. L. Acoustic similarity influences the "phonological similarity" effect. Annual Meeting of the Psychonomic Society, Seattle, Washington, November 2011.

Holt, L. L. Using speech to listen in on auditory processing. Annual Retreat, Center for the Neural Basis of Cognition, October 2011.

Holt, L. L. How the challenges of speech perception can inspire investigations of general auditory learning. European Society for Cognitive Psychology, San Sebastian, Spain, October, 2011.

Holt, L. L. Understanding the role of experience in speech perception. First International Conference on Cognitive Hearing Science for Communication. Linköping, Sweden, June 2011.

Liu, R., Soh, H. & Holt, L. L. Cue weighting for speech categorization changes based on regularities in short-term speech input. 161st Meeting of the Acoustical Society of America, Seattle, Washington, May 2011.

Huang, J. Holt, L. L., & Lotto, A. J. Long term average spectrum predicts accent normalization. 161st Meeting of the Acoustical Society of America, Seattle, Washington, May 2011.

Lim, S., Holt, L. L., & Lacerda, F. Learning acoustically complex wordlike units within a videogame training paradigm. 161st Meeting of the Acoustical Society of America, Seattle, Washington, May 2011.

Holt, L. L. Speech processing in a general framework. Biological Rhythms of Cortical Computation, New York University, May 2011.

Holt, L. L. The formation and tuning of auditory categories. McGill University, May 2011.

Holt, L. L. The formation and tuning of auditory categories. Boston University, April 2011.

Hufnagle, D. & Holt, L. L. Development of adult-like speech categorization in 3- to 5-year olds. Boston University Conference on Language Development. Boston, MA, November 2010.

Holt, L. L. Auditory Categorization. 4th Annual Meeting of the Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2010.

Wood, T., Leech, R., Apel, T., Holt, L. L. & Dick, F. Changes in fMRI activation after naturalistic training on ringtone stimuli. Society for Neuroscience 2009 Annual Meeting, Chicago, IL, October 2009.

Guediche, S. A., Holt, L. L. & Fiez, J. A. Examining the neural basis of adaptation in speech perception without feedback. Society for Neuroscience 2009 Annual Meeting, Chicago, IL, October 2009.

Idemaru, K. & Holt, L. L. Production and Perception of English /l/ and /r/ by Native-Speaking Children. 158th Meeting of the Acoustical Society of America, San Antonio, TX, October 2009.

Huang, J., Lotto, A. J., & Holt, L. L. Effect of a Spoken Passage's Long-term Average Spectrum on Subsequent Speech Categorization. 158th Meeting of the Acoustical Society of America, San Antonio, TX, October 2009.

Lim, S. & Holt, L. L. Sensitivity to the distributional structure of auditory categories. 158th Meeting of the Acoustical Society of America, San Antonio, TX, October 2009.

Laing, E., Holt, L. L., & Bagic, A. Investigation of the Neural Bases of Context-Dependent Speech Categorization. 158th Meeting of the Acoustical Society of America, San Antonio, TX, October 2009.

Guediche, S. A., Fiez, J. A., & Holt, L. L. Perceptual learning of distorted speech with and without feedback, The Annual Meeting of the Cognitive Science Society, Amsterdam, July 2009.

Lim, S. & Holt, L. L. Investigating non-native category learning using a video-game-based training paradigm. 157th Meeting of the Acoustical Society of America, Portland, OR, May 2009.

Idemaru, K. & Holt, L. L. Measuring sensitivity to short-term deviations in acoustic cue correlation. 157th Meeting of the Acoustical Society of America, Portland, OR, May 2009.

Holt, L. L. The adaptive plasticity of speech perception. 3rd Annual Meeting of the Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2009.

Holt, L. L. Twitters, gerbils and invaders from space: Speech categorization within an auditory cognitive science framework. Winter Conference on Issues in Developmental Psychobiology. St. Croix, U.S.V.I., January 2009.

Liu, R. & Holt, L. L. Effects of short-term experience on auditory categorization: An event-related potential study. 38th Annual Meeting of the Society for Neuroscience. Washington, DC, November, 2008.

Lim, S. J. & Holt, L. L. Learning Non-Native Speech Categories with a Video Game. 49th Annual Meeting of the Psychonomic Society. Chicago, IL, November 2008.

Idemaru, K. & Holt, L. L. Re-tuning Speech Sound Categories: An Eyetracking Study. 156th Meeting of the Acoustical Society of America, Miami, FL, November, 2008.

Huang, J. & Holt, L. L. Investigating the Influence of Context Frequency on Lexical Tone Perception. 156th Meeting of the Acoustical Society of America, Miami, FL, November, 2008.

Taylor, E. Holt, L.L. and Bagic, A. A MEG study of the neural basis of context-dependent speech categorization. International Conference on Biomagnetism, BIOMAG 2008, Sapporo, Japan, August, 2008. [Young Investigator Award awarded to Ms. Taylor].

Hufnagle, D., Curtin, S., Holt, L. L. & Keisling, S. L. 6-Month Olds are More Sensitive to Variations in F1 than F2 in Vowels. Workshop on Linguistic Variation Across the Lifespan. Columbus, OH. May, 2008.

Leech, R., Holt, L., Devlin, J. & Dick, F. Changes in functional organization following naturalistic training on complex auditory categories, 15th Annual Cognitive Neuroscience Meeting, San Francisco, CA, April, 2008.

Hufnagle, D., Curtin, S., Holt, L. L. & Keisling, S. L. 6-Month Olds are More Sensitive to Variations in F1 than F2 in Vowels. The XVIth Conference on Infant Studies. Vancouver, Canada. March, 2008.

Holt, L. L. Speech, melodies and invaders from space: Speech perception within a general auditory cognitive science framework. Invited colloquium. Rutgers University Department of Psychology, March, 2008.

Holt, L. L. Speech, melodies and invaders from space: Speech perception within a general auditory cognitive science framework. Invited colloquium. Brown University Department of Cognitive and Linguistic Sciences, February, 2008.

Holt, L. L. Cue weighting in speech categorization. 2nd Annual Meeting of the Auditory Cognitive Science Society, Tucson, AZ, January, 2008.

Holt, L. L. Mirror neurons, myths and the motor theory of speech perception. 2nd Annual Meeting of the Auditory Cognitive Science Society, Tucson, AZ, January, 2008.

Holt, L. L. Determinants of auditory cue weighting and selective attention. 154th Meeting of the Acoustical Society of America, New Orleans, LA, November, 2007.

Ingvalson, E. M., McClelland, J. M., & Holt, L. L. Years of exposure to English predicts perception and production of /r/ and /l/ by native speakers of Japanese. 48th Annual Meeting of the Psychonomics Society, Long Beach, CA, November, 2007.

Idemaru, K. & Holt, L. L. Relational timing or absolute duration? Cue weighting in the perception of Japanese singleton-geminate stops. International Congress of Phonetic Sciences 2007, Saarbrücken, Germany, August, 2007.

Holt, L. L. Statistical perception: effects of acoustic regularity in online perception. Workshop on Current Issues in Language Acquisition: Artificial and Statistical Language Learning. Calgary, Alberta, June, 2007.

Holt, L. L. Speech perception cognition. Inaugural Meeting of the Auditory Cognitive Science Society, January, 2007.

Smith, E. and Holt, L. A theoretical model of cochlear processing improves simulated cochlear implant hearing. Computational and Systems Neuroscience, Salt Lake City, UT, 2006

Holt, L. L. Auditory categorization: What general learning can teach us about language development, Invited address to the New York Academy of Sciences, Learning to Hear: Animal, Computational, and Neuroimaging Studies of Language Development, October, 2006.

Holt, L. L. Speech as a window to the auditory system. Center for the Neural Basis of Cognition Retreat, October, 2006.

Holt, L. L. Decisions and interactivity in perceiving speech. Invited talk, Department of Social and Decision Sciences, Carnegie Mellon University, September 2006.

Holt, L. L. Cracking the speech code. Invited talk, James S. McDonnell Foundation 21st Century Science Initiative Program Meeting, Palisades, New York, June 2006.

Holt, L. L. Auditory categorization and tuning in speech perception. Center for Visual Sciences Symposium on Statistical Learning and Brain Plasticity, University of Rochester, Invited Speaker, June, 2006.

Stephens, J. D. W., & Holt, L. L. Experience-driven effects of visual cues in speech perception. 151st Meeting of the Acoustical Society of America, Providence, Rhode Island, June 2006.

Smith, E. C. & Holt, L. L. A theoretical model of cochlear processing improves spectrally degraded speech perception. 151st Meeting of the Acoustical Society of America, Providence, Rhode Island, June 2006.

Holt, L. L. The formation and tuning of auditory categories. Invited colloquium, University of Texas – Dallas, April, 2006.

Holt, L. L. Speech, melodies and invaders from space: The formation and tuning of auditory categories. Interdisciplinary approaches to psycholinguistics and neurolinguistic research: Investigating speech perception and production, University of Southern California, February 2006.

Holt, L. L. Speech, melodies and invaders from space: The formation and tuning of auditory categories. Distinguished Speakers Series, Cornell University, November 2005.

Stephens, J.D.W., & Holt, L.L. Learned cross-modal integration of novel visual cues with auditory speech (poster). 46th Meeting of the Psychonomic Society, Toronto, ON, November 2005.

Ingvalson, E., Holt, L. L., & McClelland, J. L. Can F3 be used to teach Japanese adults /r/ and /l/? Cognitive Science Society, Stressa, Italy, August, 2005.

Holt, L. L. Formation and tuning of auditory and speech categories. Invited address McGill University, Montreal, Quebec, June 2005.

Hay, J., Holt, L. L., Lotto, A. J., & Diehl, R. L. How auditory discontinuities and linguistic experience affect the perception of speech and non-speech in English- and Spanish-speaking listeners. 149th Meeting of the Acoustical Society of America, Vancouver, BC, May 2005.

Holt, L. L. & Wade, T. Categorization of spectrally complex non-invariant auditory stimuli in a computer game task. 149th Meeting of the Acoustical Society of America, Vancouver, BC, May 2005.

Wade, T. & Holt, L. L. Perception of coarticulated speech with contrastively enhanced spectrotemporal patterns. 149th Meeting of the Acoustical Society of America, Vancouver, BC, May 2005.

Holt, L. L. & Wade, T. Incidental categorization of spectrally complex non-invariant auditory stimuli in a computer game task. Annual Meeting of the Cognitive Neuroscience Society, New York, NY, April 2005.

Stephens, J. D. W. & Holt, L. L. Experience-driven audio-visual integration in speech perception. Annual Meeting of the Cognitive Neuroscience Society, New York, NY, April 2005.

Wade, T. & Holt, L. L. Incidental complex auditory category learning in a computer game task. 28th Annual Midwinter Meeting of the Association for Research in Otolaryngology, New Orleans, LA, February, 2005.

Holt, L. L. & Lotto, A. J. Factors affecting perceptual weighting of acoustic cues in a categorization task. 28th Annual Midwinter Meeting of the Association for Research in Otolaryngology, New Orleans, LA, February, 2005.

Stephens, J. D. W., & Holt, L. L. Learning to integrate auditory and visual information in speech perception. 45th Annual Meeting of the Psychonomic Society, Minneapolis, MN, November, 2004.

Holt, L. L. & Lotto, A. J. Auditory categorization: cue weighting and dimension bias. 148th Meeting of the Acoustical Society of America, San Diego, CA, November, 2004.

Wade, T. & Holt, L. L. Contrastive backward effects of non-speech tones on speech perception. 148th Meeting of the Acoustical Society of America, San Diego, CA, November, 2004.

Holt, L. L. Name that tune: What speech categorization in context can tell us about auditory processing. Invited colloquium, Department of Physiology, University of Wisconsin-Madison, September 2004.

Holt, L. L. Auditory categorization: What general learning principles can tell us about speech categories. Invited colloquium, Kungliga Tekniska Högskolan (KTH, Swedish Royal Institute of Technology), Stockholm, Sweden, August, 2004.

Mirman, D., McClelland, J. M., & Holt, L. L. Attentional modulation of lexical effects in an interactive model of speech perception. 26th Annual Meeting of the Cognitive Science Society, Chicago, IL, August, 2004.

Holt, L. L. & Wade, T. Non-linguistic sentence-length precursors affect speech perception: Implications for speaker and rate normalization. From Sound to Sense: Fifty+ Years of Discoveries in Speech Communication, Massachusetts Institute of Technology, June 2004.

Wade, T. & Holt, L. L. Perceptual effects of preceding non-speech rate information on temporal properties of speech categories. 147th Meeting of the Acoustical Society of America, New York, NY, May 2004.

Holt, L. L. & Wade, T. Perception of correlations between acoustic cues in category tuning and speaker adaptation. 147th Meeting of the Acoustical Society of America, New York, NY, May 2004.

Holt, L. L. Context effects in speech perception. Invited colloquium, Massachusetts Institute of Technology, April 2004.

Holt, L. L. Context effects in speech perception. Invited colloquium, Lehigh University, April 2004.

Holt, L. L. and Lotto, A. J. Temporally non-adjacent acoustic histories shift identification of speech. Mid-Winter Meeting of the Association for Research in Otolaryngology, Daytona Beach, Florida, February 2004.

Holt, L. L. Context effects in speech perception: The long and the short of it. Invited colloquium, University of Stockholm, Department of Linguistics, February 2004.

Holt, L. L. What are the 'statistics' in statistical learning? 146th Meeting of the Acoustical Society of America, Austin, TX, November 2003.

Ingvalson, E. M., Holt, L. L. & McClelland, J. M. Generalization in Japanese /r/ - /l/ perception: Shining a light on the right cue. 44th Annual Meeting of the Psychonomic Society, Vancouver, BC, November 2003.

Holt, L. L. Context effects in speech perception: The long and the short of it. Colloquium addressed to the Department of Psychology at the University of Texas-Austin, September 2003.

Holt, L. L. The role of experience in speech perception. James S. McDonnell Foundation Meeting of the 21st Century Scientists, June 2003.

Holt, L. L., Lotto, A. J., & Diehl, R. L. Perceptual discontinuities and categorization: Implications for speech perception. 145th Meeting of the Acoustical Society of America, Nashville, TN, April, 2003.

McClelland, J. L., Mirman, D. & Holt, Lori L. Is there still a trace of TRACE? 145th Meeting of the Acoustical Society of America, Nashville, TN, April, 2003. (invited contribution)

Holt, L. L., Lotto, A. J., Diehl, R. L. Perceptual discontinuities and categorization: Implications for speech perception. 10th Annual Meeting of the Cognitive Neuroscience Society. NY, NY, March, 2003.

Stephens, J. D. & Holt, L. L. Are context effects in speech perception modulated by visual information? 43rd Annual Meeting of the Psychonomic Society, Kansas City, MO, November, 2002.

Lotto, A. J. & Holt, L. L. Speech perception as a paradigmatic case of auditory cognition. 1st Annual Auditory Perception, Cognition, and Action Meeting, Kansas City, MO, November, 2002.

Holt, L. L. Perceptual context effects in speech perception. 14th Annual National Academy of Sciences Beckman Frontiers of Science Symposium, Los Angeles, CA, November, 2002.

Holt, L. L. Speech perception as complex auditory categorization. 143rd Meeting of the Acoustical Society of America, Pittsburgh, PA, June, 2002.

Mirman, D., Holt, L. L., McClelland, J. L. Formation of categories for complex novel auditory stimuli. 143rd Meeting of the Acoustical Society of America, Pittsburgh, PA, June, 2002.

Stephens, J. D., & Holt, L. L. Effect of preceding speech on nonspeech sound perception. 143rd Meeting of the Acoustical Society of America, Pittsburgh, PA, June, 2002.

Lotto, A. J., & Holt, L. L. Respective roles of spectral and phonemic representations in phonetic context effects. 13th Annual Meeting of the American Psychological Society, Toronto, CA, June 2001.

Holt, L. L., & Lotto, A. J. Auditory context effects for nonequivalent sources. 141st Meeting of the Acoustical Society of America, Chicago, IL, June, 2001.

Lotto, A. J. & Holt, L. L. Experimental paradigm for examining the formation of complex auditory categories. 141st Meeting of the Acoustical Society of America, Chicago, IL, June, 2001.

Holt, L. L. Listening to the animals: What nonhumans can tell us about speech perception. Language Technologies Institute, Department of Computer Science, Carnegie Mellon University, April 2001.

Holt, L. L. & Lotto, A. J. Perceptual context effects in speech perception. Cognitive Neuroscience Society, New York, NY, March 2001.

Holt, L. L. Maintaining perceptual constancy in speech. Invited colloquium to the Department of Communication Sciences and Disorders, University of Pittsburgh, March 2001.

Holt, L. L., Ventura, V., Rhode, W. R., Behesta, S., & Rinaldo, A. Context-dependent neural coding in the chinchilla cochlear nucleus. 140th Meeting of the Acoustical Society of America, Newport Beach, CA, December, 2000.

Kluender, K. R., Lotto, A. J., & Holt, L. L. (2000). Contributions of general auditory processes to perceptual accommodation of coarticulation. Invited address, The Nature of Speech Perception, Universiteit Utrecht, July 2000.

Holt, L. L. & Rhode, W. S. Examining context-dependent speech perception in the chinchilla cochlear nucleus. 23rd Midwinter Meeting of the Association for Research in Otolaryngology, February 22, 2000.

Holt, L. L., Lotto, A. J., & Kluender, K. R. Influence of fundamental frequency on stop-consonant voicing perception: A case of learned covariation or auditory enhancement? 138th Meeting of the Acoustical Society of America, Columbus, OH, November 4, 1999.

Lotto, A. J., Holt, L. L., & Kluender, K. R. Structure of phonetic categories produced by general learning mechanisms, 138th Meeting of the Acoustical Society of America, Columbus, OH, November 4, 1999.

Kluender, K. R. & Holt, L. L. General auditory processes contribute to perceptual accommodation of coarticulation. Invited address to the Speech Communication and Language Development Symposium, Stockholm, Sweden, June 17, 1999.

Holt, L.L. & Lotto, A. J. Simultaneous detection and identification of vowels: A case of unconscious perception? 71st Meeting of the Midwestern Psychological Association, Chicago, IL, April 29, 1999.

Lotto, A. J. & Holt, L. L. The illusion of the phoneme. Special Phonetics Panel (ChiPhon) of 35th Conference of the Chicago Linguistic Society, University of Chicago, April 23, 1999.

Holt, L. L., Lotto, A. J., & Kluender, K. R. Spectral contrast in the perception of VCV syllables. 136th Meeting of the Acoustical Society of America, Norfolk, Virginia, October 13, 1998.

Holt, L. L. The ABCs of effects of experience on infant speech perception. Address to Department of Physiology, University of Wisconsin, October, 1998.

Holt, L. L. Statistical learning of phonetic patterns. Address to Chaos and Complex Systems Seminar, University of Wisconsin, September, 1998.

Holt, L. L. Of context and cochlear nuclei: Encoding spectral contrast. Address to the Department of Neurophysiology, University of Wisconsin, March, 1998.

Kluender, K. R., Lotto, A. J., & Holt, L. L. Contributions of general auditory processes to perceptual accommodation of coarticulation. Institute of Linguistics, Stockholm University, Stockholm, Sweden, March, 1998, Invited colloquium.

Holt, L. L. Animal models of speech-sound acquisition. Address to the Department of Psychology, University of Wisconsin, February, 1998.

Holt, L. L., Kluender, K. R., & Lotto, A. J. Discrimination of single-formant stimuli by chinchillas (*Chinchilla villidera*). 134th Meeting of the Acoustical Society of America, San Diego, California, December, 1997.

Lotto, A. J., Holt, L. L., & Kluender, K. R. Perceptual magnet effect as categorical perception. 134th Meeting of the Acoustical Society of America, San Diego, California, December, 1997.

Holt, L. L. Context dependencies in perception. Invited address to the Department of Mechanical Engineering, University of Wisconsin, Robotics Research Seminar, June, 1997.

Lotto, A. J., Kluender, K. R., & Holt, L. L. Animal models of speech perception phenomena. Chicago Linguistics Society, Chicago, Illinois, April, 1997.

Holt, L. L. Does perceptual contrast neutralize coarticulatory assimilation? Address to the Department of Neurophysiology, University of Wisconsin, April, 1997.

Lotto, A. J., Kluender, K. R., & Holt, L. L. Context effects in speech perception by Japanese quail (*Coturnix japonica*). 20th Midwinter Meeting of the Association

for Research in Otolaryngology (ARO), St. Petersburg Beach, Florida, February, 1997.

Lotto, A. J., Holt, L. L., & Kluender, K. R. General auditory processes may accommodate kinematic consequences of speech coarticulation. European Speech Communication Association Research Workshop on "The Auditory Basis of Speech Perception", Keele University, United Kingdom, July, 1996.

Kluender, K. R., Lotto, A. J., & Holt, L. L. Effects of language experience in perceptual organization for vowel sounds as inferred from human, nonhuman, and computational models. European Speech Communication Association Research Workshop on "The Auditory Basis of Speech Perception", Keele University, United Kingdom, July, 1996.

Lotto, A. J., Kluender, K. R., & Holt, L. L. Effects of language experience on perceptual organization of vowel sounds. Fifth Conference on Laboratory Phonology, Evanston, Illinois, July, 1996.

Lotto, A. J., & Holt, L. L. Auditory illusions and parlor tricks. Address to Department of Neurophysiology, University of Wisconsin, June, 1996.

Holt, L. L., Lotto, A. J., & Kluender, K. R. Perceptual compensation for vowel undershoot may be explained by general perceptual principles. 131st Meeting of the Acoustical Society of America, Indianapolis, Indiana, May, 1996.

Holt, L. L. Breathy female voice quality: Desirability or intelligibility? Address to Department of Psychology, University of Wisconsin, March, 1996.

Lotto, A. J., Kluender, K. R., & Holt, L. L. Animal and computational models of development of graded vowel categories. 130th Meeting of the Acoustical Society of America, St. Louis, Missouri, November, 1995.

Kluender, K. R., Lotto, A. J., & Holt, L. L. Effect of voice quality on the tense/lax distinction for English vowels. XIIIth International Congress of Phonetic Sciences, Stockholm, Sweden, August, 1995, invited address.

Lotto, A. J., Kluender, K. R., & Holt, L. L. Spectral discontinuities and the vowel length effect. 128th Meeting of the Acoustical Society of America, Austin, Texas, November, 1994.

Holt, L. L., Lotto, A. J., & Kluender, K. R. Effect of voice quality on the tense/lax distinction for English vowels. 128th Meeting of the Acoustical Society of America, Austin, Texas, November, 1994.

TEACHING

Music & Mind: The Cognitive Neuroscience of Sound

Spring '07; Fall '09;
Spring '12, '15

Cognitive Research Methods

Spring '04-'06, '09-'11

The Discovery of Spoken Language

Spring '01-'03

Biological Foundations of Behavior

Fall '99-'06; '10-'11,'14

MENTORING

Undergraduate Research Mentor

More than 40 students supervised in independent research. Three students presently training.

1999- present

Dissertation Committee Chair

Dan Mirman (co-advisor with Jay McClelland)
Assistant Professor, Drexel University

Ph.D. 2005

Joseph (Beau) D. W. Stephens
Associate Professor, North Carolina A&T

Ph.D. 2006

Erin Ingvalson (co-advisor with Jay McClelland)
Assistant Professor, Florida State University

Ph.D. 2008

Erika Laing
PhD Student, University of Pittsburgh

M.S. 2010

Jingyuan Huang
Senior Research Associate, Educational Testing Service

Ph.D. 2012

Sung-joo Lim
Postdoctoral Researcher, Max Planck Institute

Ph.D. 2013

Ran Liu
Postdoctoral Researcher, CMU

Ph.D. 2014

Matt Lehet, Ph.D. Student

Est. 2017

Casey Roark, Ph.D. Student

Est. 2019

Charles Wu, Ph.D. Student

Est. 2020

Dissertation Committee Member

Evan Smith (Vivienne Ming), CMU Psychology

Ph.D. 2006

Brent Vander Wyk, CMU Psychology

Ph.D. 2007

Christine Watson, CMU Psychology

Ph.D. 2009

Sara Guediche, CNUP

Ph.D. 2009

Alyx Kronstein, CMU Psychology

M.A. 2010

Chris Paynter, CMU Psychology

Ph.D. 2014

Caitlin Moyer, CNUP

Ph.D. 2013

Lindsay Victoria, CMU Psychology

Ph.D. 2012

Lucy Erickson, CMU Psychology

Ph.D. 2015

Xiaonan Liu, CMU Psychology

Est. 2015

Sandrine Girard, CMU Psychology

Est. 2019

Outside Examiner

Maria Kondaurava (Dr. Alex Francis, Committee Chair)	2008, Purdue University
Michelle Farmerie (Dr. Bill Langbauer, Committee Chair)	2008, George Washington University
Audny Dypvik (Dr. Suzanne Curtin, Committee Chair)	2007, University of Calgary

Post-doctoral Supervisor

Dr. Travis Wade <i>Institute for Natural Language Processing at the University of Stuttgart; Posit Science</i>	2003-2005
Dr. Kaori Idemaru <i>Associate Professor, University of Oregon</i>	2006-2008
Dr. Daniel Hufnagle <i>Hufnagle Solutions, Inc.</i>	2008-2012
Dr. David Wozny <i>Automation Systems Engineer, Cook MyoSite</i>	2011-2012
Dr. Eva Reinisch <i>Ludwig Maxamillian University, Munich</i>	2011-2012
Dr. Yafit Gabay <i>Postdoctoral Research Fellow, University of Haifa</i>	2012-2014
Dr. Julia Zhang	2015-present

INSTITUTIONAL SERVICE**Department of Psychology**

Zdrojkowski Search Committee Chair	2014, 2015
Cognitive Area Faculty Search Committee	2003, 2004, 2006, 2008, 2012
Social Area Faculty Search Committee	2005, 2012
Graduate Admissions/Visit Coordinator	2000-2006
Undergraduate Research Award Committee	2000-2002
Graduate Education Committee	2004-present
Promotion & Tenure Committees	various
Developmental Cognitive Neuroscience Search Committee	2013-2014
Neuroscience Major Development Committee	2013

Center for the Neural Basis of Cognition

Executive Committee	2000-present
Education Committee	2000-present
Co-Director Search Committee	2006-2009
University Advancement & Fundraising	2010-present

Co-Director, B ² Graduate Training Program	2007-present
Carnegie Mellon University	
University Non-tenure Promotion Committee	2009-2011
Animal Care and Use Committee	2000-2012
Dietrich College Dean Search Committee	2013-2014
Ad Hoc Committee Librarian Reappointment	2013, 2014