

# Lori L. Holt

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## EDUCATION

- 1995-1999 Ph.D., Department of Psychology  
Cognitive Psychology, Neurophysiology Minor  
University of Wisconsin-Madison  
Thesis Title: *Auditory Constraints on Speech Perception: An Examination  
of Spectral Contrast*
- 1991-1995 B.S. Department of Psychology  
University of Wisconsin-Madison

## EMPLOYMENT

- 2006- Associate Professor, Tenured  
Department of Psychology  
Carnegie Mellon University, Pittsburgh, PA
- 2004-2006 Associate Professor, Untenured  
Department of Psychology  
Carnegie Mellon University, Pittsburgh, PA
- 1999-2004 Assistant Professor  
Department of Psychology  
Carnegie Mellon University, Pittsburgh, PA
- 1999- Affiliated Faculty  
Center for the Neural Basis of Cognition  
Carnegie Mellon University & University of Pittsburgh
- 1995-1999 National Science Foundation Predoctoral Fellow  
University of Wisconsin-Madison
- 1995-1999 Graduate Research Assistant  
Department of Psychology, Dr. Keith Kluender  
University of Wisconsin-Madison
- 1998 Graduate Research Assistant  
Department of Neurophysiology, Dr. William Rhode  
University of Wisconsin-Madison

**AWARDS & HONORS**

- 2007 Association for Psychological Science "Rising Star" in Psychology  
Evie and Ron Krancer Award in Auditory Science
- 2002 Dennis Klatt Research in Speech Science Award  
American Speech Language and Hearing Association
- 2002 14<sup>th</sup> Annual Beckman Frontiers of Science Symposium Invitee  
National Academy of Sciences
- 2000-2006 21<sup>st</sup> Century Scientist Award - Bridging Mind, Brain & Behavior  
James S. McDonnell Foundation
- 1999 Acoustical Society Young Investigator Award  
Acoustical Society of America
- 1999 Henry Vilas Professional Development Fellowship  
University of Wisconsin
- 1995 National Science Foundation Predoctoral Research Fellowship
- 1998 Ruth G. & Joseph D. Matarazzo Research Award  
American Psychological Foundation
- 1998 Sigma Xi Grants-In-Aid of Research Award  
National Sigma Xi Chapter
- 1997 Royalty Research Award  
University of Wisconsin
- 1997 M. Schwartz Experimental Psychology Fellow  
University of Wisconsin
- 1996 Roderick Menzies Graduate Fellowship  
University of Wisconsin
- 1995 Henry Vilas Fellowship  
University of Wisconsin
- 1995 Phi Beta Kappa
- 1995 Herfurth Award to Outstanding Senior Woman  
University of Wisconsin
- 1994 Hilldale Undergraduate Research Award  
University of Wisconsin
- 1994 Gilchrist Undergraduate Research Award  
University of Wisconsin
- 1994 Psi Chi Undergraduate Research Award  
University of Wisconsin
- 1991 Ferdinand Plaenert Scholarship  
University of Wisconsin
- 1991 Academic Excellence Scholarship  
State of Wisconsin

**PROFESSIONAL ORGANIZATIONS**

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| Acoustical Society of America                       | Cognitive Neuroscience Society |
| American Association for the Advancement of Science | Psychonomic Society            |
| American Psychological Association                  | Sigma Xi                       |

## EDITORIAL ACTIVITIES

Editorial Board:

*Perception & Psychophysics*

Ad Hoc Reviewer of Submitted Manuscripts:

*Acoustic Research Letters Online*

*Animal Cognition*

*Cognition*

*Cognitive, Affective, and Behavioral*

*Neuroscience*

*Cognitive Brain Research*

*Current Directions in Psychological Science*

*Journal of the Acoustical Society of America*

*Journal of Experimental Psychology: Human*

*Perception & Performance*

*Journal of Memory and Language*

*Journal of Phonetics*

*Language and Cognitive Processes*

*Language and Speech*

*Memory and Cognition*

*Nature Reviews Neuroscience*

*Perception & Psychophysics*

*(editorial board)*

*Phonetica*

*Psychonomic Bulletin and Review*

Ad Hoc Reviewer of Grant Proposals:

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

## 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*.

Speech Communication Technical Committee Member, Acoustical Society of America

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

Organizing Committee, 143<sup>rd</sup> Meeting of the Acoustical Society of America, Pittsburgh, PA, June, 2002.

## PENDING AWARDS

Principal Investigator, *Discovering the Neural Basis of Speech Categorization*, National Science Foundation, submitted January 14, 2008, \$506,256 over 3 years.

Principal Investigator, with co-Investigators Dr. Suzanne Curtin of University of Calgary and Dr. Scott Kiesling of University of Pittsburgh, *DHB: The Role of Cognition and Social Development in Linguistic Change*, National Science Foundation, submitted February 19, 2008, \$750,000 over 3 years.

## ONGOING AWARDS

Principal Investigator, *Learning Complex Auditory Categories*, National Science Foundation (2<sup>nd</sup> renewal), 04/01/2008 - 03/31/2010, \$153,746.

Co-Principal Investigator, with co-Investigator Dr. Julie Fiez, University of Pittsburgh, *Predoctoral Training Program in Behavioral Brain Research (T32)*, T32GM081760, National

Institute of General Medical Sciences, Institutional NRSA Award, \$1,485,792 over 5 years, 7/1/2007-6/30/2012.

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.

Principal Investigator, with co-Investigator Dr. Andrew J. Lotto, *Formation and Tuning of Complex Auditory Categories*, National Institutes of Health, 2 R01DC004674-04A2, \$1,532,201 over 5 years, 09/01/2005-8/31/2010.

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, 01/01/04-12/31/08.

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).

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*, National Organization of Hearing Research.

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 October 5, 2007, \$20,000 over 1 year.

## PAST RESEARCH AWARDS

Principal Investigator, *Learning complex auditory categories*, National Science Foundation, renewal, \$200,000, BCS-0345773, 05/01/04-04/30/06.

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, 21<sup>st</sup> 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.

## PUBLICATIONS

Holt, L. L. & Lotto, A. J. (submitted). Reevaluating the evidence for gestural perception of speech: Of motor theory and mirror neurons.

Ming, V. & Holt, L. L. (submitted). Efficient coding in human auditory perception.

Stephens, J. D. W. & Holt, L. L. (submitted). Learning novel visual speech cues: Implications for models of information integration.

Stephens, J. D. W., & Holt, L. L. (submitted). A standard set of American-English voiced stop consonant stimuli from morphed natural speech.

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.

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

Mirman, D., McClelland, J. L. & Holt, L. L. (2006). Interactive activation and Hebbian learning produce lexically guided tuning of speech perception. *Psychonomic Bulletin and Review*, 13, 958-965.

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

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 (2006). *Perception & Psychophysics*, *68*, 178-183.

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

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.

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.

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. (1997). Effect of voice quality on perceived height of English vowels. *Phonetica*, 54, 76-93.

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

## CHAPTERS & PROCEEDINGS PAPERS

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

Holt, L. L. (in press). Psychophysics of Speech. In P. Hogan, Editor, *Cambridge Encyclopedia of the Language Sciences*.

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

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*.

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.

## CONFERENCE PRESENTATIONS AND INVITED ADDRESSES

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.

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. 2<sup>nd</sup> 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. 2<sup>nd</sup> Annual Meeting of the Auditory Cognitive Science Society, Tucson, AZ, January, 2008.

Holt, L. L. Determinants of auditory cue weighting and selective attention. 154<sup>th</sup> 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. 48<sup>th</sup> 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 21<sup>st</sup> 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. 151<sup>st</sup> 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. 151<sup>st</sup> 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. 149<sup>th</sup> 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. 149<sup>th</sup> 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. 149<sup>th</sup> 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. 28<sup>th</sup> 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. 28<sup>th</sup> 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. 45<sup>th</sup> Annual Meeting of the Psychonomic Society, Minneapolis, MN, November, 2004.

Holt, L. L. & Lotto, A. J. Auditory categorization: cue weighting and dimension bias. 148<sup>th</sup> 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. 148<sup>th</sup> 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. 26<sup>th</sup> 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. 147<sup>th</sup> 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. 147<sup>th</sup> 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? 146<sup>th</sup> 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. 44<sup>th</sup> 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 21<sup>st</sup> Century Scientists, June 2003.
- Holt, L. L., Lotto, A. J., & Diehl, R. L. Perceptual discontinuities and categorization: Implications for speech perception. 145<sup>th</sup> 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? 145<sup>th</sup> 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. 10<sup>th</sup> 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? 43<sup>rd</sup> 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. 1<sup>st</sup> Annual Auditory Perception, Cognition, and Action Meeting, Kansas City, MO, November, 2002.
- Holt, L. L. Perceptual context effects in speech perception. 14<sup>th</sup> Annual National Academy of Sciences Beckman Frontiers of Science Symposium, Los Angeles, CA, November, 2002.
- Holt, L. L. Speech perception as complex auditory categorization. 143<sup>rd</sup> 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. 143<sup>rd</sup> 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. 143<sup>rd</sup> 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. 13<sup>th</sup> Annual Meeting of the American Psychological Society, Toronto, CA, June 2001.
- Holt, L. L., & Lotto, A. J. Auditory context effects for nonequivalent sources. 141<sup>st</sup> 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. 141<sup>st</sup> 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. 140<sup>th</sup> 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. 23<sup>rd</sup> 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? 138<sup>th</sup> 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, 138<sup>th</sup> 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 35<sup>th</sup> 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. 136<sup>th</sup> 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*). 134<sup>th</sup> 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. 134<sup>th</sup> 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*). 20<sup>th</sup> 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. 131<sup>st</sup> 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. 130<sup>th</sup> 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. XIII<sup>th</sup> 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. 128<sup>th</sup> 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. 128<sup>th</sup> Meeting of the Acoustical Society of America, Austin, Texas, November, 1994.

## TEACHING

Spring 2007	Music & Mind: The Cognitive Neuroscience of Sound
Spring 2004-2006	Cognitive Research Methods
Spring 2001-2003	The Discovery of Spoken Language
Fall 1999-2006	Biological Foundations of Behavior

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- Joseph (Beau) D. W. Stephens  
Ph.D. August 2006
- Erin Ingvalson (co-advisor with Jay McClelland)  
Estimated graduation date, December 2008
- Jingyuan Huang  
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- Erika Taylor  
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- Sung-joo Lim  
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Michelle Farmerie (Dr. Bill Langbauer, Dissertation Committee Chair)  
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