

Lori L. Holt

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	https://www.cmu.edu/dietrich/psychology/holtlab/ loriholt@cmu.edu	
EDUCATION	Ph.D., Department of Psychology Cognitive Psychology, Neurophysiology Minor University of Wisconsin-Madison Thesis: <i>Auditory Constraints on Speech Perception: An Examination of Spectral Contrast</i>	1995-1999
	B.S. Department of Psychology University of Wisconsin-Madison	1991-1995
EMPLOYMENT	Inaugural Dean's Chair of Dietrich College of Humanities and Social Sciences	2022-present
	Professor Department of Psychology Carnegie Mellon University, Pittsburgh, PA	2010-present
	Professor Neuroscience Institute Carnegie Mellon University, Pittsburgh, PA	2022-present
	Co-Director Center for the Neural Basis of Cognition Carnegie Mellon University & University of Pittsburgh	2022-present
	Co-Director Behavioral-Brain (B2) Research Training Program Carnegie Mellon University & University of Pittsburgh	2007-present
	Affiliated Faculty, Member Executive Committee Center for the Neural Basis of Cognition Carnegie Mellon University & University of Pittsburgh	1999-2022
	Professor, Courtesy Appointment Department of Neuroscience University of Pittsburgh, Pittsburgh, PA	2011-present

Professor, Courtesy Appointment Department of Modern Languages Carnegie Mellon University, Pittsburgh, PA	2015-present
Training Faculty Member Center for Neuroscience, University of Pittsburgh University of Pittsburgh, Pittsburgh, PA	2012-present
Member, Pittsburgh Hearing Research Center	2017-present
Member, Children's Neuroscience Institute	2020-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
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

AWARDS & HONORS

Acoustical Society of America Fellow	2022
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	1994

University of Wisconsin	
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

Section Editor (present):
Cognition

Associate Editor (present):
Open Mind
Auditory Perception & Cognition

Editorial Boards (past and present):
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:
Acoustic Research Letters Online
Animal Cognition
Brain and Language
Cerebral Cortex
Cognition
Cognitive, Affective, and Behavioral Neuroscience
Cognitive Brain Research
Cognitive Psychology
Cortex
Cognitive Science
Current Directions in Psychological Science
Developmental Psychobiology
eLife
Journal of the Acoustical Society of America
Journal of Experimental Psychology: Human Perception & Performance

Journal of Memory and Language
Frontiers in Perceptual Sciences
Attention, Perception & Psychophysics
IEEE Transactions in Haptics
Journal of Phonetics
Language and Cognitive Processes
Language and Speech
Memory and Cognition
Nature Communications
Nature Reviews Neuroscience
Open Mind
Perception & Psychophysics
Phonetica
PLoS One
Psychonomic Bulletin and Review
Psychological Review
Speech Communication
Frontiers in Auditory Cognitive Neuroscience

Reviewer of Grant Proposals:
National Science Foundation
National Institutes of Health
Autism Now Foundation
Wellcome Trust
Executive Board of the Austrian Science Fund

**OTHER
PROFESSIONAL
& LEADERSHIP
ACTIVITIES**

Co-Director
Center for the Neural Basis of Cognition

Advisory Board
Windward Institute

The Windward School is a co-ed, independent day school located in New York City and White Plains, New York, for children in grades 1-9 with language-based learning disabilities.

Editor with Jonathan Peelle,
Springer Handbook of Auditory Science, Speech Perception, Vol. 74
to be published 2022.

Co-director with Dr. Julie Fiez, **NIH (NIGMS) T32 Training Grant, T32GM081760, Predoctoral Training at the Interface of the Behavioral and Biomedical Sciences.**
Funded continuously since 2007, supporting 50+ PhD trainees for two years each.

Organizing Committee and Principal Investigator, Symposium for Cognitive Auditory Neuroscience (Principal Investigator, NIH R13 Conference Grant 2019-2022)

Section Editor, Cognition

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

Speech Communication Technical Committee Member, Acoustical Society of America

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

Conference Organizing Committee, Advances and Perspectives in Auditory Neuroscience (APAN), 2016-2018

Chair, Young Investigator Award Committee, Advances and Perspectives in Auditory Neuroscience (APAN), 2017; 2018

**PENDING
GRANT SUPPORT**

Co-Investigator, Dr. Taylor Abel (PI), **Cortical Mechanisms of Human Voice Perception, National Institutes of Health.**

**ONGOING
GRANT SUPPORT**

Dimension-based auditory selective attention
NIH R01DC017734

Principal Investigator, with Drs. Frederic Dick (University College London), Adam Tierney (Birkbeck College) and Barbara Shinn-Cunningham (CMU). National Institutes of Health, National Institute of Deafness and Communication Disorders.

This project seeks to understand mechanisms of auditory selective attention to features of sound, like frequency. \$2,835,471 total award; 01/20-12/25.

**Incidental learning across statistically-structured input in active tasks
NSF BCS1950054**

Principal Investigator, with Dr. Frederic Dick (University College London) and Dr. Edmund Lalor (University of Rochester). National Science Foundation, Science of Learning.

This project examines how incidental alignment of statistically structured input facilitates learning above and beyond what can be learned from passive exposure. \$824,987 total award; 10/20-09/23.

**SBE-UKRI: Contextually and probabilistically weighted auditory selective attention:
from neurons to networks
NSF BCS 2219521**

Principal Investigator (lead institution), with with Dr. Frederic Dick (University College London) and Dr. Kerry Walker (Oxford University) on the BBSRC side and Dr. Taylor Abel (University of Pittsburgh) and Dr. Edmund Lalor (University of Rochester) on the NSF side.

This project forms a new bi-national collaboration across five laboratories to investigate the neurobiological basis of attention-learning interactions in human and ferret models. \$1,027,044 total award US; £1,000,000 total award UK; awarded 09/22.

**The behavioral brain research training program
NIH T32GM142630**

Principal Investigator (with MPI Julie Fiez, University of Pittsburgh) National Institutes of Health, National Institute of General Medical Sciences.

As co-director since 2007, the Behavior-Brain (B2) training grant aims to advance the next generation of intellectual leaders at the intersection of brain and behavior. We have supported 50 PhD students for two years of study each since 2007. \$2,888,705 total award; awarded 07/22.

Tracking engagement in human communication from wearable sensors in real-world environments

James F. McDonnell Foundation Understanding Human Cognition, 103771720223937
Principal Investigator, with Dr. Fernando de La Torre (Carnegie Mellon University).

This work is designed to break speech communication research out of the laboratory, and bring it into the real world. We will use augmented reality approaches to draw social interactions into speech communication research. \$250,000 total award; awarded 09/22.

Transfer of statistical learning from perception to production: a new lens on the perception-production link

NSF BCS 2217415

Principal Investigator, with Dr. Nazbanou Nozari (Carnegie Mellon University), National Science Foundation.

This project investigates links between speech production and speech perception through the lens of statistical learning. \$553,739 total award; awarded 09/22.

Flexible representation of speech in human auditory cortex

NIH F32DC020649

Sponsor (for Dr. Vibha Viswanathan, University of Pittsburgh). National Institutes of Health, Ruth L. Kirschstein National Research Service Award (NRSA), Individual Postdoctoral Fellowship (F32),

This project supports Dr. Viswanathan's postdoctoral training under my mentorship. \$71,674 total award; awarded 09/22.

Mechanisms of auditory selective attention for speech and non-speech stimuli

NIH F32DC020625

Sponsor (for Dr. Sahil Luthra, Carnegie Mellon University). National Institutes of Health, Ruth L. Kirschstein National Research Service Award (NRSA), Individual Postdoctoral Fellowship (F32), awarded 2022.

This project supports Dr. Luthra's postdoctoral training under my mentorship. \$71,674 total award; awarded 09/22.

Flexible representation of speech in the supratemporal plane

NIH R21DC019217

Principal Investigator with MPI Taylor Abel (University of Pittsburgh). National Institutes of Health, National Institute of Deafness and Communication Disorders.

This project investigates flexible representations of speech in human cortex using stereoelectroencephalography paired with electroencephalography in a neurosurgical context. \$234,544 total award; 04/21-03/23.

Symposium on Cognitive Auditory Neuroscience (SCAN) Workshop

NIH R13DC018243

Principal Investigator with Drs. Barbara Shinn-Cunningham (Carnegie Mellon University and Bharath Chandrasekaran (University of Pittsburgh). National Institutes of Health, National Institute Deafness and Communication Disorders.

This award supports the origin of a new conference, the Symposium on Cognitive Auditory Neuroscience (SCAN) – launched online during COVID-19 in 2020. \$74,132 total award; 01/20-12/23.

Cortical-basal ganglia speech networks

NIH U01NS117836

Co-Investigator (PI: Mark Richardson). U01 National Institutes of Health, National

Institute of Neurological Disorders and Stroke.

This project seeks to understand the basal ganglia-thalamocortical speech networks involved in the interaction between speech perception and speech production using neurosurgical populations undergoing deep brain stimulation implant surgery.
\$36,592 subcontract to CMU, 09/21-08/25.

NSF/SBE-BSF: Trajectories of acquisition, consolidation and retention in incidental auditory category learning

NSF BCS1655126

Principal Investigator with Drs. Yafit Gabay and Avi Karni (Haifa University). National Science Foundation, Perception Action and Cognition.

This project investigates category learning among adults and children with dyslexia.
\$974,755 total award, NCE through March 2023.

Cognitive processing in human and machine listening

DSF Workshop Grant, Carnegie Mellon University Mellon College of Science

Principal Investigator with Co-Investigators Drs. Barbara Shinn-Cunningham (Carnegie Mellon University) and Bharath Chandrasekaran (University of Pittsburgh).

This internal funding supports the SCAN Symposium. \$20,000 total award

Training temporally-driven sustained selective attention to sound in children with ADHD

Waterloo Foundation

Co-Investigator (PI: Dr. Adam Tierney, Birkbeck College, University of London)

This project uses our online videogame platforms to examine auditory sustained selective attention among children with ADHD (by cooperative agreement)

Individual differences in dimensional weighting in speech perception

Leverhulme Trust

Co-Investigator (PI: Dr. Adam Tierney, Birkbeck College, University of London).

This project examines how listeners weight information in the acoustic speech signal, and how these individual differences interact with online perceptual learning about distributions of experience in the short-term. (by cooperative agreement)

**PAST GRANT
SUPPORT**

Principal Investigator (with trainee Charles Wu). Doctoral Dissertation Research: Mechanisms of adaptive plasticity in speech perception. National Science Foundation, Linguistics. 02/15/2020-01/31/2022.

Co-Investigator (with Principal Investigators Dr. Helen Tager-Flusberg and Dr. Barbara Shinn-Cunningham), A Novel Intervention for Training Auditory Attention in Adolescents with Autism Spectrum Disorder, Department of Defense.

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. R03, National Institutes of Health, National Institute of Child Health and Development. 08/17/2019-08/16-2021.

Principal Investigator (with Drs. Seth Wiener, Mike Christel), Wedding basic science and pedagogy: Is classroom foreign language learning supported by incidental auditory training? ProSEED / Simon Initiative Grant, Carnegie Mellon University.

Principal Investigator, The Silent Service: An Online Game for Delivery of Auditory Tasks at Scale, Games for Engaging Learning Seed Grant, National Institutes of Health, \$10,000, 2017.

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.

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 (*Meriones 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 Jubilumsfond, 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).

PEER-REVIEWED PUBLICATIONS,

submitted for
review

Murphy, T., Nozari, N., & Holt, L. L. (*under review*).

Transfer of statistical learning from passive speech perception to speech production. <https://psyarxiv.com/wtpdz>

Dastolfo-Hromack, C., Lipski, W., Bush, A., Bohland, J., Turner, R.S., Fraundorf, S., Holt, L.L., Fiez, J., Shaiman, S., & Richardson, R.M. (*under review*).

Activity in the subthalamic nucleus indexes the coupling of articulation and vocal intensity.

Wu, Y.C., Viswanathan, V., Abel, T. J., & Holt, L. L. (*under review*).

Auditory cortical responses to speech are shaped by statistical learning of short-term speech input regularities. <https://biorxiv.org/cgi/content/short/2022.12.19.520832v1>, <https://osf.io/ysnf3/>.

Hodson, A.J., Shinn-Cunningham, B.G., & Holt, L. L. (*under review*).

Statistical learning across passive listening adjusts perceptual weights of speech

input dimensions. <https://psyarxiv.com/4kxz3/>, <https://osf.io/87skr/>

Obasih, C. O., Luthra, S., Dick, F. & Holt, L. L. (*under review*).

Auditory category learning is robust across training regimes.

<https://psyarxiv.com/ygwhd/>, <https://osf.io/bnk9e/>

Smith, E., Holt, L. L., & Dick, F. (*under review*).

A one-man bilingual cocktail party: Linguistic and non-linguistic effects on bilinguals' speech comprehension in Mandarin and English.

<https://osf.io/spnfh/>, <https://psyarxiv.com/k8rzt/>

Gabay, Y., Karni, A. & Holt, L. L. (*in revision*).

Memory for incidentally learned categories evolves in the post-learning interval.

<https://psyarxiv.com/a8ksm/>, <https://osf.io/7y2nx/>

Lehet, M. & Holt, L. L. (*in revision*)

Graded effects of short-term distributional regularities on speech perception.

Wu, Y. C., Liu, R., Lim, S. -J., & Holt, L. L. (*under review*).

Incidental versus passive statistical learning across continuous natural speech.

Holt, L. L. Huang, J., & Lotto, A. J. (*in revision*).

Harry Potter and the sorcerer's spectrum: the long-term average spectrum of audiobooks calibrates speech perception.

Liu, R. & Holt, L. L. (*in revision*).

Investigating the role of variability in incidental learning of Mandarin lexical tone categories.

Liu, R. & Holt, L. L. (*in revision*).

Incidental training in a videogame improves non-native speech perception and transfers to word learning.

PEER-REVIEWED
PUBLICATIONS,
in press

Gabay, Y., Roark, C. L. & Holt, L. L. (*in press*).

Impaired and spared auditory category learning in developmental dyslexia.

Psychological Science. <https://psyarxiv.com/xbceg/>, <https://osf.io/8qc24/>

PEER-REVIEWED
PUBLICATIONS

Gabay, Y., Madlansacay, M., & Holt, L. L. (2022). **Incidental auditory category learning and motor sequence learning.** *Attention, Perception and Psychophysics.* <https://psyarxiv.com/hu92e/>, doi.org/10.3758/s13414-022-02616-x.

Jasmin, K., Tierney, A.T, Obasih, C., Holt, L. L. (2022). **Short-term perceptual re-weighting in suprasegmental categorization.** *Psychonomic Bulletin & Review.* <https://www.biorxiv.org/content/10.1101/2021.01.18.427088v2>

- Zhao, S., Brown, C. A., Holt, L. L., & Dick, F. (2022). **Robust and efficient online auditory psychophysics.** *Trends in Hearing*.
<https://doi.org/10.1101/2021.07.17.452796>
- Wu, Y. C. & Holt, L. L. (2022). **Phonetic category activation predicts the direction and magnitude of perceptual adaptation to accented speech.** *Journal of Experimental Psychology: Human Perception and Performance*, doi: 10.1037/xhp0001037.
- Roark, C. L. & Holt, L. L. (2022). **Long-term priors constrain category learning in the context of short-term statistical regularities.** *Psychonomic Bulletin & Review*.
<https://psyarxiv.com/sdf7y/>
- Rupp, K., Hect, J. Remick, M., Ghuman, A.S., Chandrasekaran, B. Holt, L.L., & Abel, T.J. (2022). **Categorical encoding of voice in human superior temporal cortex.** *PLoS Biology*. <https://www.biorxiv.org/content/10.1101/2021.11.23.469682v1.full>
- Holt, L. L. & Peelle, J. (2022). **The auditory cognitive neuroscience of speech perception in context.** *Springer Handbook of Auditory Science, Vol. 74*, L. L. Holt & J. Peelle, Editors.
- Zhang, H., Wiener, S. & Holt, L. L. (2022). **Evidence for dynamic adjustment of cue weighting in speech.** *Journal of the Acoustical Society of America*, 151, 92-1005. PMC8846952.
- Caras, M.L., Happel, M., Chandrasekaran, B., Ripollés, P., Keesom, S.M., Hurley, L.M., Ramage-Healey, L., Holt, L. L., Wright, B.A. (2022). **Non-sensory influences on auditory learning and plasticity.** *Journal of the Association for Research in Otolaryngology*, 23, 151-166. <https://doi.org/10.1007/s10162-022-00837-3>.
- Roark, C. L., Plaut, D. & Holt, L. L. (2022). **A neural network model of the effect of prior experience with regularities on subsequent category learning.** *Cognition*, 222, 104997. <https://psyarxiv.com/uvaew/>, doi.org/10.1016/j.cognition.2021.104997
- DiNino, M., Holt, L. L. & Shinn-Cunningham, B. G. (2022). **Cutting through the noise: noise-induced cochlear synaptopathy and speech-in-noise understanding among listeners with normal audiograms.** *Ear & Hearing*, 43, 9-22. doi: 10.1097/AUD.0000000000001147.
- Chrabaszcz, A., Wang, D., Lipski, W.J., Bush, A., Crammond, D. J., Shaiman, S., Dickey, M. W., Holt, L. L., Turner, R. S., Fiez, J. A., & Richardson, R. M. (2021). **Simultaneously recorded subthalamic and cortical LFPs reveal different lexicality effects during reading aloud,** *Journal of Neurolinguistics*, 60, 101019.
- Dastolfo-Hromack C., Bush A., Chrabaszcz A., Alhourani A., Lipski W., Wang D., Crammond D.J., Shaiman S., Dickey M.W., Holt L.L., Turner R.S., Fiez J.A., Richardson R.M. (2021). **Articulatory gain predicts patterns of neural activity in the subthalamic**

nucleus and motor cortex. *Cerebral Cortex*, doi.org/10.1093/cercor/bhab251

Roark, C. L., Lehet, M. Dick, F., & Holt, L. L. (2021). **The representational glue for incidental category learning is alignment with task-relevant behavior.** *Journal of Experimental Psychology: Learning, Memory, and Cognition*, <https://osf.io/9dkjg/>, <https://psyarxiv.com/mhbxrc/>, doi: 10.1037/xlm0001078, PMC8957634.

Zhang, X., Wu, X., & Holt, L. L. (2021). **The learning signal in perceptual tuning of speech: Bottom-up vs. Top-down information.** *Cognitive Science*, 45, e12947, DOI: 10.1111/cogs.12947.

Laffere, A., Dick, F. Holt, L. L. & Tierney, A. (2020). **Attentional modulation of neural entrainment to sound streams in children with and without ADHD.** *Neuroimage*, <https://doi.org/10.1016/j.neuroimage.2020.117396>. PMC7577583.

Gabay, Y. & Holt, L. L. (2020). **Adaptive plasticity under adverse listening conditions is disrupted in developmental dyslexia.** *Journal of the International Neuropsychological Society*, doi: 10.1017/S1355617720000661.

Lehet, M. & Holt, L. L. (2020). **Nevertheless it persists: Dimension based statistical learning and normalization of speech impact different levels of representation.** *Cognition*, 202, 104328.

Martinez, J. S., Holt, L. L., Reed, C. M., & Tan, H. Z. (2020). **Incidental categorization of vibrotactile stimuli.** *IEEE Transactions on Haptics*, 13, 73-79.

Idemaru, K. & Holt, L. L. (2020). **Generalization of dimension-based statistical learning.** *Attention, Perception & Psychophysics*, 82, 1744-1762.

Jasmin, K. Dick, F., Holt, L. L., & Tierney, A. T. (2020). **Tailored perception: listeners' strategies for perceiving speech fit their individual perceptual abilities.** *Journal Experimental Psychology: General*, 149, 914-934. PMC7133494.

Chrabaszcz, A., Wang, D., Lipski, W.J., Crammond, D.J., Shaiman, S., Dickey, M.W., Holt, L.L., Turner, R.S., Fiez, J.A., Richardson, M. (2019). **Subthalamic nucleus and perisylvian cortical regions differentially encode lexicality during a reading aloud task.** *Journal of Neuroscience*, 39, 2698 –2708.

Roark, C. L. & Holt, L. L. (2019). **Auditory information-integration category learning in young children and adults.** *Journal of Experimental Child Psychology*, 188, 104673. PMC6768697.

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. (2019). **Normal categorical perception to syllable-like stimuli in long term and in first episode schizophrenia.** *Schizophrenia Research*, 208, 124-132.

- Lim, S. -J., Fiez, J. A., & Holt, L. L. (2019). **The role of the striatum in incidental learning of sound categories.** *Proceedings of the National Academy of Science*, 116, 4671-4680.
- Roark, C. L. & Holt, L. L. (2019). **Perceptual dimensions influence auditory category learning.** *Attention, Perception & Psychophysics, Special Issue in Honor of Randy Diehl*, 81, 912–926. PMC6616009.
- Chrabaszcz, A., Neumann W.J., Stretcu O, Lipski W., Bush A., Dastolfo-Hromack C, Wang D., Crammond D.J., Shaiman S., Dickey M.W., Holt L.L., Turner R.S., Fiez J.A., & Richardson R. M. (2019). **Subthalamic nucleus and sensorimotor cortex activity during speech production.** *Journal of Neuroscience*, 39, 2698-2708.
- Sharma, N. K., Ganesh, S., Ganapathy, S., & Holt, L. L. (2019). **Talker change detection: A comparison of human and machine performance.** *Journal of the Acoustical Society of America*, 145, 131-.
- Zhang, X. & Holt, L. L. (2018). **Simultaneous tracking of co-evolving distributional regularities in speech.** *Journal of Experimental Psychology: Human Perception & Psychophysics*, 44, 1760-1779. PMC6205888.
- Roark, C. L., & Holt, L. L. (2018). **Task and distribution sampling affect auditory category learning.** *Attention, Perception & Psychophysics*, 80, 1804-1822. PMC6136954.
- Gabay, Y., & Holt, L. L. (2018). **Short-term adaptation to sound statistics is unimpaired in developmental dyslexia.** *PLoS ONE*, 13(6): e0198146. <https://doi.org/10.1371/journal.pone.0198146>
- Lipski, W., Alhourani, A., Pirnia, T., Jones, P., Dastolfo-Hromack, C., Helou, L., Crammond, D., Shaiman, S., Dickey, M., Holt, L.L., Fiez, J. A., Turner, R., and Richardson, R. (2018). **Subthalamic nucleus neurons differentially encode early and late aspects of speech production.** *Journal of Neuroscience*, 38, 5620-5631.
- Holt, L. L., Tierney, A. T., Guerra, G., Laffere, A., & Dick, F. (2018). **The dynamic interplay of attention and context underlying speech processing.** *Hearing Research*, 366, 50-64.
- Dick, F. K., Lehet, M. I., Callaghan, M. F., Keller, T. A., Sereno, M. I., & Holt, L. L. (2017). **Extensive tonotopic mapping across auditory cortex is recapitulated by spectrally-directed attention, and systematically related to cortical myeloarchitecture.** *Journal of Neuroscience*, 37, 12187-12201.
- Lehet, M. & Holt, L. L. (2016). **Dimension-based statistical learning affects both speech perception and speech production.** *Cognitive Science*, 41, 885-912.

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.*

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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*, 41, 1783-1798.

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

CHAPTERS and PROCEEDINGS PAPERS

- Hodson, A. J., DiNino, M., Shinn-Cunningham, S. G., & Holt, L. L. (2022). **Dimension-based statistical learning in older adults.** *Proceedings of the Cognitive Science Society*.
- Roark, C. L., Plaut, D. C., & Holt, L. L. (2020). **A neural network model of the effect of prior experience with regularities on subsequent category learning.** *Proceedings of the Cognitive Science Society*.
- Sharma, N., Ganesh, S., Ganapathy, S., & Holt, L. L. (2019). **Analyzing human reaction time for talker change detection.** *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 7135-7139. IEEE, 2019.
- Weiner, S., Murphy, T., Christel, M., Goel, A., & Holt, L. L. (2019). **Incidental learning of non-speech auditory analogs scaffolds second language learners' perception and production of Mandarin lexical tones.** *International Congress of Phonetic Sciences*, Melbourne, Australia.
- Holt, L. L., Roark, C. L., Lehet, M. I., & Dick, F. (2018). **Drivers of incidental category learning.** *Proceedings of the Cognitive Science Society*, Madison, 2018.
- Wu, Y. C., & Holt, L. L. (2018). **Phonetic category activation drives dimension-based adaptive tuning in speech perception.** *Proceedings of the Cognitive Science Society*, Madison, 2018.

- Gabay, Y., Karni, A., & Holt, L. L. (2018). **Consolidation and retention of auditory categories acquired incidentally in performing a visuomotor task.** *Proceedings of the Cognitive Science Society*, Madison, 2018.
- 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 Fougerson 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.

**INVITED
COLLOQUIA,
PODIUM, &
KEYNOTE
PRESENTATIONS**

Holt, L. L. Breaking auditory psychophysics out of the laboratory. 46th Annual MidWinter Meeting of the Association for Research in Otolaryngology. February 2023. Invited Symposium.

Holt, L. L. Category learning and dimension-selective attention in auditory cortex. 46th Annual MidWinter Meeting of the Association for Research in Otolaryngology. February 2023. Invited Symposium.

Holt, L. L. Listening in on auditory learning. Duolingo. Pittsburgh, PA. November 2022.

Holt, L. L. Listening in on auditory learning. University of Texas. September 2022.

Holt, L. L. TEX 2022: Bringing together predictive processes and statistical learning, Trieste, Italy. Invited Speaker. July 2022.

Holt, L. L. Listening in on auditory learning. Cornell University. September 2021.

Holt, L. L. Speech perception in context. University of Maryland. September 2021.

Holt, L. L. Incidental auditory category learning and its implications for language acquisition. Cross-Cutting Challenge (CCC) panel on the theme of Tactile Speech Communication at the Haptics Symposium 2021. July 2021.

Holt, L.L. Online regularities and prior knowledge conspire to shape speech perception. Trieste Encounter on Cognitive Science (TEX) 2021: Predictive Processes and Statistical Learning. Trieste, Italy. July 2021.

Holt, L. L. Supervised error-driven learning in speech perception. Association for Research in Otolaryngology, Invited Talk, Special Session. Online. February 2021.

Wiener, S., Murphy, T. K., Obasih, C. O. and Holt, L. L. Incidental category learning of L2 speech sounds: Evidence from Chinese tones and Japanese pitch accent. International Symposium on Bilingual and L2 Processing in Adults and Children. June 2021.

Holt, L. L. Unsolved, but solvable challenges in auditory neuroscience. Advances and Perspectives in Auditory Neuroscience. Online. October 2020.

Holt, L. L. Educational neuroscience: what every teacher should know. The Windward Institutes 2020 Summer Webinar Series. Online. July 2020.

Holt, L. L. Bottom-up versus top-down information flow while listening to speech. CogHear. Online. July 2020.

Holt, L. L. The future of neuroscience: Cognitive neuroscience. CMU Alumni Association. Online. June 2020.

Holt, L. L. The future of neuroscience: Cognitive neuroscience. Carnegie Mellon University Board of Trustees Meeting. San Francisco, CA. February 2020.

Holt, L. L. An auditory cognitive neuroscience perspective on speech perception. University of South Florida, Communication Sciences and Disorders. February 2020.

Holt, L.L. Explicit versus incidental auditory learning. Invited colloquium. University of Pittsburgh, Department of Communication Science and Disorders. October 2019.

Holt, L. L. Using speech to listen in on auditory processing. Invited colloquium. University of South Florida, Communication Sciences and Disorders. October 2019.

Holt, L. L. Listening in on auditory learning. Invited colloquium. University of Pittsburgh, Department of Psychiatry. October 2019.

Holt, L. L. Listening in on auditory learning. Invited colloquium. Baylor University. September 2019.

Holt, L. L. Incidental learning: An active assist for statistical learning. Interdisciplinary Advances in Statistical Learning, San Sebastian, Spain. June 2019. Keynote.

Holt, L. L. Incidental learning: An active assist for statistical learning. University of Texas-Austin. April 2019.

Holt, L. L. Incidental learning: An active assist for statistical learning. Mini-Workshop on Animal Cognition, Communication and Human Language. University of Maryland College Park, April, 2019.

Holt, L. L. Understanding how humans interpret the complexity of spoken language. Winter School on Speech and Audio Processing (WiSSAP). College of Engineering, Trivandrum, Kerala, India. January 2019.

Holt, L. L. Understanding how humans interpret the complexity of spoken language. Indian Institute of Science. Bangalore, India. January 2019.

Holt, L. L. Statistical Learning Workshop. Yale University and Haskins Laboratories. December 2018.

Holt, L. L. Using speech to listen in on auditory learning. Invited talk at the University of Southern California, October 2018.

Holt, L. L. Incidental learning. Invited talk at the PDP Symposium. Princeton, September 2018.

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

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

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

Holt, L. L. Using speech to listen in on auditory processing. University of Pittsburgh Communications Disorders Reading Group, March 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. Using speech to listen in on auditory learning. Center for Perceptual Sciences Colloquium, University of Texas-Austin. Austin, TX, November 2015.

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

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

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

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.

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. 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.

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

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.

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

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.

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.

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. 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.

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

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.

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. 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.

CONFERENCE PRESENTATIONS

Derawi, H., Holt, L.L., Karni, A. & Gabay, Y. Children and adults with developmental dyslexia are impaired in Incidental learning of complex sound categories. International Workshop on Reading and Developmental Dyslexia. San Sebastian, Spain. June 2023.

- Murphy, T. K., Nozari, N. & Holt, L. L. Statistical regularities of accented speech influence listeners' own speech productions. Acoustical Society of America, Chicago, IL. May 2023.
- Viswanathan, V., Rupp, K., Hect, J., Harford, E., Holt, L. L. & Abel, T. Human intracranial responses to speech: Latency and attention effects, Association for Research in Otolaryngology, Orlando, FL. February 2023.
- Viswanathan, V., Rupp, K., Harford, E., Hect, J., Abel, T., Holt, L. L. Neural signatures of adaptive plasticity in speech perception as measured with human intracranial stereo-electroencephalography, Association for Research in Otolaryngology, Orlando, FL. February 2023.
- Derawi, H., Holt, L., Karni, A. & Gabay, Y. Impaired Incidental learning of complex sound categories in children and adults with dyslexia. Poster presented at the 10th Israeli Conference on Cognition Research (ISCOp), Akko, Israel. February 2023.
- Statistical regularities of task-irrelevant dimensions impact auditory decisions. Luor, A., Luthra, S., Shinn-Cunningham, B. G., Tierney, A., Dick, F. K., & Holt, L. L. Acoustical Society of America. Nashville, TN. December 2022.
- Luthra, S., Obasih, C. O., Tierney, A. T., Dick, F. K., & Holt, L. L. Using frequency selectivity to examine category-informative dimension-selective attention. Acoustical Society of America. Nashville, TN. December 2022.
- Black, J., Nozari, N., Murphy, T., & Holt, L. L. Distributional speech regularities maintained across long delays influence perceptual weighting of speech input. 63rd Annual Meeting of the Psychonomic Society. November 2022.
- Bochtler, K., Dick, F., Holt, L. L., King, A. J., Walker, K. M. The influence of sound statistics on auditory decisions in ferrets. Society for Neuroscience. November 2022.
- Bochtler, K., Dick, F., Holt, L. L., King, A. J., Walker, K. M. The influence of sound statistics on auditory decisions in ferrets. Advances and Perspectives in Auditory Neuroscience. November 2022.
- Luthra, S., Tierney, A., Holt, L. L. & Dick, F. Neural systems underlying source- and dimension-based auditory selective attention to naturalistic speech. Society for the Neurobiology of Language, Philadelphia, PA. October 2022.
- Luthra, S., Obasih, C. O., Tierney, A., Dick, F. & Holt, L. L. Using frequency selectivity to examine category-informative dimension-selective attention. Society for the Neurobiology of Language, Philadelphia, PA. October 2022.
- Dastolfo-Hromack, C. Lipski, W., Bush, A., Bohland, J., Turner, R., Chandrasekaran, B., Fraundorf, S., Holt, L.L., Fiez, J., Shaiman, S., & Richardson, R.M. Activity in the

subthalamic nucleus indexes the coupling of articulation and vocal intensity. Society for the Neurobiology of Language, Philadelphia, PA. October 2022.

Hect, J., Rupp, K., Harford, E., Gupta, K., Reeher, H., Dick, F., Holt, L. L., Abel, T. Intracerebral investigation of the neural representation of voice in human auditory cortex using voice-like acoustic stimuli. 1st Interdisciplinary Conference on Voice Identity (VoicelD): Perception, Production, and Computational Approaches. Zurich, Switzerland. July 2022.

Hodson, A. J., DiNino, M., Shinn-Cunningham, S. G., & Holt, L. L. Dimension-based statistical learning in older adults. Cognitive Science Society. Toronto, CA, July 2022.

Luor, A., Dick, F., Shinn-Cunningham, B. & Holt, L.L. Statistical learning guides auditory attention. Cognitive Science Society. Toronto, CA, July 2022.

Hodson, A. J., Wu, C. Y., Shinn-Cunningham, S. G., & Holt, L. L. Perceptual adaptation to speech input statistics is driven by predictions from category representations. TEX 2022: TEX 2022: Bringing Together Predictive Processes and Statistical Learning, Trieste, Italy. July 2022.

Luor, A., Luthra, S., Shinn-Cunningham, B., Tierney, A. T., Dick, F. & Holt, L. L. Global and transitional probability of task-irrelevant dimensions impact behavior. TEX 2022: Bringing Together Predictive Processes and Statistical Learning, Trieste, Italy. July 2022.

Murphy, T., Nozari, N. & Holt, L. L. Statistical learning transfers from speech perception to production. The 12th International Workshop on Language Production (IWOLP). Pittsburgh, PA. June 2022.

Dastolfo-Hromack C., Lipski W., Bush A., Fraundorf S., Bohland J., Turner R., Chandrasekaran B., Holt L., Fiez J., Shaiman S., Richardson R.M. Phonetic-Intensity Encoding in the Precentral Gyrus and Subthalamic Nucleus. Motor Speech Conference. Charleston, South Carolina. February 2022.

Zhang, H., Wiener, S. & Holt, L. L. Evidence for dynamic adjustment of cue weighting in speech. 61st Annual Meeting of the Psychonomic Society, Austin TX, November 2020.

Wu, Y. C. & Holt, L. L. Rapid adaptation to short-term regularities affects auditory cortical evoked responses to speech. Advances and Perspectives in Auditory Neuroscience. October 2020.

Jasmin, K., Dick, F., Sun, H., Stewart, L., Holt, L., Tierney, A. Weighting of auditory dimensions in speech and music perception: individual differences and neural bases. Society for the Neurobiology of Language, October 2020.

Chrabaszcz, A., Wang, D., Lipski, W.J., Bush, A., Crammond, D.J., Shaiman, S., Dickey, M.W., Holt, L.L., Turner, R.S., Fiez, J.A., Richardson, R.M. Simultaneously recorded subthalamic and cortical LFPs reveal different lexicality effects during reading aloud. Society for the Neurobiology of Language, October 2020.

Zhang, H., Wiener, S. & Holt, L. L. Evidence for dynamic adjustment of cue weighting in speech. 61st Annual Meeting of the Psychonomic Society, Austin TX, November 2020.

Burkinshaw, K., Milhalicz, P., Holt, L. L., Curtin, S. I can't believe it's not chiz! Lexical effects on toddler's phonetic perception. (Virtual) International Conference on Infant Studies. July 2020.

Idemaru, K., Vaughn, C., Sharma, N. & Holt, L. L. Specificity vs. generalizability of dimension-based statistical learning. Cue weighting: Thinking outside the box, Satellite Workshop of Laboratory Phonology, Vancouver, CA, July 2020.

Gabay, Y., Nissan, N., Holt, L., & Karni, A. The Development of Incidental Auditory Category Learning. Early Childhood Education: Growing up in dynamic and changing times. Bar-Ilan University, Israel, July 2020.

Burkinshaw, K., Holt, L. L., & Curtin, S. *I can't believe it's not chiz! Lexical effects on toddler's phonetic perception* has been accepted as a poster presentation for the upcoming ICIS Biennial Congress, Glasgow, Scotland, July 2020.

Roark, C. L., Holt, L. L. & Plaut, D. A neural network model of the effect of prior experience with regularities on subsequent category learning. Cognitive Science Society. July 2020.

Weiner, S., Murphy, T. K., Obasih, C. O., & Holt, L. L. Incidental category learning of L2 speech sounds: Evidence from Chinese tones and Japanese pitch accent. 3rd International Symposium on Bilingual and L2 Processing in Adults and Children. June 2020.

Vaughn, C., Sharma, N., Holt, L. L. & Idemaru, K. Dimension-based statistical learning: Specificity or generalization across words and talkers? Meeting of the Acoustical Society of America, Chicago, IL. May 2020.

Nissan, N., Holt, L., Karni, A. & Gabay, Y. Consolidation and retention of sound place associations and incidental auditory category learning among typical and dyslexic readers. The 7th Conference on Cognition Research of the Israeli Society for Cognitive Psychology, Akko, Israel. February 2020.

DiNino, M., Behm, L., Wu, Y.C., Shinn-Cunningham, B.G., Holt, L. L. Age-Related Changes in Phonetic Cue Usage: Contributions to Speech Understanding in Noise. Association for Research in Otolaryngology. San Jose, CA. January 2020.

DiNino, M., Wu, Y. C., Behm, L., Nolan, T., Shinn-Cunningham, B.G., Holt, L. L. Perceptual Weighting of Voice Onset Time and Fundamental Frequency Cues in Noise. January 2020.

Roark, C. L. & Holt, L. L. Exposure to short-term acoustic regularities has limited impact on representations and behavior. 60th Annual Meeting of the Psychonomic Society. Montreal, CA. November 2019.

Jasmin, K., Dick, F., Holt, L., Stewart, L., Tierney, A. T. Reduced reliance on pitch cues for speech perception in amusia: a neural basis. Annual Meeting of the Society for Neuroscience, Chicago. October 2019. (Nanosymposium on '*Personalized Brain Signatures*')

Gabay, Y. Karni, A., Banai, K. & Holt, L. L. Speech Perceptual Learning Across Distorted Input in Developmental Dyslexia. European Society for Cognitive Psychology. Tenerife. September 2019.

Tierney, A., Dick, F., Holt, L. L. & Aeron, L. Effects of short-term training on attentional modulation of neural phase. 23rd International Congress on Acoustics, Aachen, Germany. September 2019.

Gabay, Y., Karni, A., & Holt, L. L. Overnight consolidation and retention of implicit and explicit knowledge of incidentally learned auditory categories. Interdisciplinary Advances in Statistical Learning, San Sebastian, Spain. June 2019.

Holt, L. L. Your brain at a cocktail party. Pint of Science Festival. Pittsburgh, PA, <https://pintofscience.us/>. May 2019.

Holt, L. L. Randy Diehl. University of Texas-Austin. April 2019.

Sharma, N., Ganesh, S., Ganapathy, S. & Holt, L. L. Analyzing human reaction time for talker change detection. International Conference on Acoustics and Signal Processing, IEEE Signal Processing Society. Brighton, UK. May 2019.

Burkinshaw, K., Curtin, S., & Holt, L. L. Vowel space and variability in infant- and adult-directed speech. 177th Meeting of the Acoustical Society of America, Louisville, KY. May, 2019.

Nissan, N., Holt, L. L., Karni, A. & Gabay, Y. The development of incidental auditory category learning. International Convention of Psychological Science (ICPS), Paris, March 2019.

Nissan, N., Holt, L. L., Karni, A. & Gabay, Y. The development of incidental auditory category learning. The 6th conference on Cognition Research of the Israeli Society of Cognitive Psychology, Akko, Israel, February 2019.

Sharma, N., Ganapathy, S., Ganesh, S. & Holt, L. L. Talker Change Detection: A comparison of human and machine performance. Association for Research in Otolaryngology. February, 2019.

Wu, Y. & Holt, L. L. Behavioral and electrophysiological evidence of incidental learning across continuous speech. Association for Research in Otolaryngology. February, 2019. (selected for podium presentation)

Wu, Y., Liu, R., Lim, S-J., & Holt, L.L. Behavioral and electrophysiological evidence of incidental learning across continuous speech. Advances and Perspectives in Auditory Neuroscience, November 2018. (Recognized with a Poster Teaser Award).

Chrabaszcz A., Neumann J., Stretcu O., Lipski W., Bush A., Dastolfo-Hromack C., Wang D., Crammond D.J., Shaiman S., Dickey M.W., Holt L.L., Turner R.S., Fiez J.A., Richardson R.M. Cortical and subcortical representations of consonant articulatory features. Society for Neuroscience, November 2018.

Dastolfo-Hromack C (co-first author), Alhourani A (co-first author), Lipski W, Crammond DJ, Shaiman S, Dickey MW, Holt LL, Turner RS, Fiez JA, Richardson RM Neural oscillations in the human subthalamic nucleus predict scaling of speech production. Society for Neuroscience, November 2018.

Wu, Y., Liu, R., Lim, S-J., & Holt, L.L. Behavioral and electrophysiological evidence of incidental learning across continuous speech. Society for Neuroscience, November 2018. (Recognized with a digital poster presentation).

Roark, C. L., Lehet, M. I., Dick, F., & Holt, L. L. Factors influencing incidental category learning. 2018 Annual Meeting of the Psychonomics Society, New Orleans, LA, November 2018.

Roark, C. & Holt, L. L. Development of information-integration auditory category learning. 40th Annual Meeting of the Cognitive Science Society, Madison, WI. July 2018.

Wu, Y., & Holt, L. L. Phonetic category activation drives dimension-based adaptive tuning in speech perception. 40th Annual Meeting of the Cognitive Science Society, Madison, WI. July 2018.

Holt, L. L., Roark, C. L., Lehet, M. I., & Dick, F. Drivers of incidental category learning. 40th Annual Meeting of the Cognitive Science Society, Madison, WI. July 2018.

Gabay, Y., Karni, A., & Holt, L. L. Consolidation and retention of auditory categories acquired incidentally in performing a visuomotor task. 40th Annual Meeting of the Cognitive Science Society, Madison, WI. July 2018.

Wu, Y., & Holt, L. L. Behavioral and electrophysiological evidence of incidental learning, generalization and retention of speech categories from continuous speech. 175th Meeting of the Acoustical Society of America, Minneapolis, MN, May 2018.

Holt, L. L. The life and times of Randy Diehl. Diehl-a-palooza. Austin, TX, April 2018.

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.

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. Using speech to listen in on auditory learning. Carnegie Mellon University, Pittsburgh, PA, 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.

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.

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. 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.

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.

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. International Congress of Phonetic Sciences, Glasgow, 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. Our Tootsie Pop Problem. Auditory Cognitive Neuroscience Society, Tucson, AZ, January 2015.

- 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.
- 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.
- 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.

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.

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.

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. 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, 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, May 2009.
- Holt, L. L. The adaptive plasticity of speech perception. Annual Meeting of the Auditory Cognitive Neuroscience Society, Tucson, AZ, 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. 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. Speech perception cognition. Inaugural Meeting of the Auditory Cognitive Neuroscience 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. Speech as a window to the auditory system. Center for the Neural Basis of Cognition Retreat, October, 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.

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.

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.

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. 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., 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. 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., 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.
- 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.
- 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.
- 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.

	<p>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.</p> <p>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.</p>	
TRAINING	Carnegie Mellon University Leadership and Negotiation Academy for Women	Fall 2019
TEACHING	Expertise: The cognitive (neuro)science of learning almost any skill	Spring '22
	Music & Mind: The Cognitive Neuroscience of Sound	Spring '07; Fall '09; Spring '12, '15
	Cognitive Research Methods	Spring '04-'06,'09-'11, Fall '18
	The Discovery of Spoken Language	Spring '01-'03
	Biological Foundations of Behavior	Fall '99-'06; '10-'11,'14, '16-'22; Spring '20-'21
	The Psychology and Neuroscience of Everyday Life	Spring '17-'18
MENTORING	<p>Reviewer Zero, Volunteer Reviewer/Mentor Reimagining peer review to grow a diverse new generation of scholars in psychology and neuroscience, reviewerzero.net</p> <p>Undergraduate Research Mentor More than 75 students supervised in independent research. Seven undergraduate students presently training.</p> <p>Co-Director, Behavioral-Brain (B2) PhD Training Program NIH-supported since 2007, the goal of B2 is to cultivate the next generation of researchers who can skillfully integrate behavior and brain research.</p> <p>Dissertation Committee Chair Dan Mirman (co-advisor with Jay McClelland) <i>Senior Lecturer, University of Edinburgh</i></p> <p>Joseph (Beau) D. W. Stephens <i>Professor, North Carolina A&T</i></p>	<p>2021-present</p> <p>1999- present</p> <p>2007-present</p> <p>Ph.D. 2005</p> <p>Ph.D. 2006</p>

Erin Ingvalson (co-advisor with Jay McClelland) <i>Associate Professor, Florida State University</i>	Ph.D. 2008
Erika Laing <i>Project Scientist, CMU, Machine Learning Department</i>	M.S. 2010
Jingyuan Huang <i>User Experience Researcher at Google</i>	Ph.D. 2012
Sung-joo Lim <i>Assistant Professor, SUNY Binghamton</i>	Ph.D. 2013
Ran Liu <i>Lead Machine Learning Scientist at Amira Learning</i>	Ph.D. 2014
Matt Lehet <i>Post-doctoral Research, University of Michigan</i>	Ph.D. 2017
Casey Roark <i>Post-doctoral Research, University of Pittsburgh</i>	Ph.D. 2019
Charles Wu <i>SPARK Neuro</i>	Ph.D. 2020
Tim Murphy, Ph.D. Student	Est. 2023
Hui Zhang, Ph.D. Student Visitor <i>Shanghai Jiao Tong University & City University of Hong Kong</i>	Ph.D. 2022
Chisom Obasih, Ph.D. Student	Est. 2025
Alana Hodson, Ph.D. Student	Est. 2025
Austin Luor, Ph.D. Student	Est. 2025
Jenah Black, Ph.D. Student	Est. 2026
Sunreeta Bhattacharya, Ph.D. Student (rotation)	Est. 2027
Dissertation Committee Member	Ph.D. 2006
Evan Smith (Vivienne Ming), CMU Psychology	Ph.D. 2007
Brent Vander Wyk, CMU Psychology	Ph.D. 2009
Christine Watson, CMU Psychology	Ph.D. 2009
Sara Guediche, CNUP	M.A. 2010
Alyx Kronstein, CMU Psychology	Ph.D. 2014

Chris Paynter, CMU Psychology	Ph.D. 2013
Caitlin Moyer, CNUP	Ph.D. 2012
Lindsay Victoria, CMU Psychology	Ph.D. 2015
Lucy Erickson, CMU Psychology	Ph.D. 2014
Xiaonan Liu, CMU Psychology	Ph.D. 2019
Sandrine Girard, CMU Psychology	Ph.D. 2020
	Ph.D. 2021
Pithculee Uayporn, University of Pittsburgh	Ph.D. 2022
Jasmine Kwasa, CMU Electrical & Computer Engineering	Ph.D. 2021
Emily Bond, CMU Psychology	Ph.D. 2022
Matthew Boring, Center for Neuroscience, U Pittsburgh	Est. 2024
Winko An, CMU Electrical & Computer Engineering	Est. 2025
Raouf Belkhir, CMU Psychology	Est. 2025
Jack Burgess, Program in Neural Computation	
Emily Duricy, Center for Neuroscience, U Pittsburgh	
	2017, Rutgers University
Outside Examiner	
Efe Soyman	2016, University of Rochester
(Dr. David Vicario, Committee Chair)	
David Kleinschmidt	2008, Purdue University
(Dr. Florian Jaeger, Committee Chair)	
Maria Kondaurova	2008, George Washington University
(Dr. Alex Francis, Committee Chair)	
Michelle Farmerie	2007, University of Calgary
(Dr. Bill Langbauer, Committee Chair)	
Audny Dypvik	
(Dr. Suzanne Curtin, Committee Chair)	
	2003-2005
Post-doctoral Supervisor	
Dr. Travis Wade	
<i>Scientist, Posit Science</i>	2006-2008
Dr. Kaori Idemaru	
<i>Professor, University of Oregon</i>	2008-2012
Dr. Daniel Hufnagle	
<i>Hufnagle Solutions, Inc.</i>	2011-2012
Dr. David Wozny	
<i>Automation Systems Engineer, Cook MyoSite</i>	2011-2012
Dr. Eva Reinisch	
<i>Research Group Leader, Austrian Academy of Sciences</i>	2012-2014
Dr. Yafit Gabay	

Associate Professor (tenured), University of Haifa	2015-2016
Dr. Julia Zhang Google	2017-2019
Dr. Neeraj Sharma Postdoctoral Researcher, Indian Institute of Science, Bangalore	
Dr. Mishaela DiNino NIH NRSA Postdoctoral Fellow, Assistant Professor, University of Buffalo Communication Sciences	2018-2022
Dr. Sahil Luthra	2021-
Dr. Vibha Viswanathan	2021-
Dr. Franziska Broeker	2023-
Early Career Faculty Mentoring	
Seth Wiener, Modern Languages, Carnegie Mellon	Active
Katherine Burns, Modern Languages, Carnegie Mellon	Active
Tim Verstynen, Psychology, Carnegie Mellon	Active
Taylor Abel, Neurosurgery, University of Pittsburgh	Active

INSTITUTIONAL SERVICE

Department of Psychology	
Behavioral-Brain PhD Training Grant, Director CMU	2007-present
Strategic Planning Committee Chair	2017-2021
Cognitive Neuroscience PhD Program Development, Lead	2017-2018
Faculty P&T Committee Chair	2021
Faculty Search Committee Chair	2017
Zdrojkowski Search Committee Chair	2014, 2015
Cognitive Area Faculty Search Committee	2003, 2004, 2006, 2008, 2012, 2018
Social Area Faculty Search Committee	2005, 2012
Graduate Admissions/Visit Coordinator	2000-2006
Undergraduate Research Award Committee	2000-2002
Graduate Education Committee	2004-2015
Promotion & Tenure Committees	various
Developmental Cognitive Neuroscience Search Committee	2013-2014 2013
Neuroscience Major Development Committee	2013-present
Neuroscience Major Lead Advisor, Dietrich	
Center for the Neural Basis of Cognition	
Co-Director	2022-present
Co-Director, B ² Graduate Training Program	2007-present

Executive Committee	2000-present
Education Committee	2000-present
Co-Director Search Committee	2006-2009
University Advancement & Fundraising	2010-present
Carnegie Mellon University	
Packard Fellows Review Committee	2022
Salary Equity Review Committee	2021
University Tenure Review Process Committee	2018
Promotion and Tenure Evaluation Committee	2018
Committee on Consensual Relationships Policy	2018
Bridge Neuroimaging Center Steering Committee	2018-present
Dietrich College Grand Challenges Committee, Member	2018
BrainHub Search Committee	2017-2018
University Promotion & Tenure Committee	2015-2019
Mellon College of Science, DSF Charitable Foundation Evaluation Committee	2017
Neuroscience Major Steering Committee	2013-present
Neuroscience Major (Cognitive Neuroscience) Advisor	2013-present
University Non-tenure Promotion Committee	2009-2011
Institutional Animal Care and Use Committee	2000-2012
Dietrich College Dean Search Committee	2013-2014
Ad Hoc Committee Librarian Reappointment	2013, 2014
University of Pittsburgh	
Department of Otolaryngology, Faculty Search Committee	2017-2018