

## Publications

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### JOURNAL ARTICLES

1. Murphy, T. K., Nozari, N., & Holt, L. L. (2023). Transfer of statistical learning from passive speech perception to speech production. *Psychonomic Bulletin & Review*. <https://doi.org/10.3758/s13423-023-02399-8>
2. Symons, A. E., Holt, L. L., & Tierney, A. T. (2023). Informational masking influences segmental and suprasegmental speech categorization. *Psychonomic Bulletin & Review*. <https://doi.org/10.3758/s13423-023-02364-5>
3. Hodson, A. J., Shinn-Cunningham, B. G., & Holt, L. L. (2023). Statistical learning across passive listening adjusts perceptual weights of speech input dimensions. *Cognition*, 238, 105473. <https://doi.org/10.1016/j.cognition.2023.105473>
4. Obasih, C. O., Luthra, S., Dick, F., & Holt, L. L. (2023). Auditory category learning is robust across training regimes. *Cognition*, 237, 105467. <https://doi.org/10.1016/j.cognition.2023.105467>
5. Gabay, Y., Roark, C. L., & Holt, L. L. (2023). Impaired and spared auditory category learning in developmental dyslexia. *Psychological Science*, 34(4), 468–480. <https://doi.org/10.1177/09567976231151581>
6. Gabay, Y., Karni, A., & Holt, L. L. (2023). Memory for incidentally learned categories evolves in the post-learning interval. *eLife*, 12. <https://doi.org/10.7554/eLife.81855>
7. Gabay, Y., Madlansacay, M., & Holt, L. L. (2022). Incidental auditory category learning and visuomotor sequence learning do not compete for cognitive resources. *Attention, Perception, & Psychophysics*, 85(2), 452–462. <https://doi.org/10.3758/s13414-022-02616-x>
8. Jasmin, K., Tierney, A., Obasih, C., & Holt, L. (2022). Short-term perceptual reweighting in suprasegmental categorization. *Psychonomic Bulletin & Review*, 30(1), 373–382. <https://doi.org/10.3758/s13423-022-02146-5>
9. Roark, C. L., & Holt, L. L. (2022). Long-term priors constrain category learning in the context of short-term statistical regularities. *Psychonomic Bulletin & Review*, 29(5), 1925–1937. <https://doi.org/10.3758/s13423-022-02114-z>
10. 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*, 48(9), 913–925. <https://doi.org/10.1037/xhp0001037>
11. Rupp, K., Hect, J. L., Remick, M., Ghuman, A., Chandrasekaran, B., Holt, L. L., & Abel, T. J. (2022). Neural responses in human superior temporal cortex support coding of voice representations. *PLOS Biology*, 20(7), e3001675. <https://doi.org/10.1371/journal.pbio.3001675>
12. Roark, C. L., Lehet, M. I., Dick, F., & Holt, L. L. (2022). The representational glue for incidental category learning is alignment with task-relevant behavior. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 48(6), 769–784. <https://doi.org/10.1037/xlm0001078>
13. Roark, C. L., Plaut, D. C., & Holt, L. L. (2022). A neural network model of the effect of prior experience with regularities on subsequent category learning. *Cognition*, 222, 104997. <https://doi.org/10.1016/j.cognition.2021.104997>
14. Caras, M. L., Happel, M. F. K., Chandrasekaran, B., Ripollés, P., Keesom, S. M., Hurley, L. M., Remage-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(2), 151–166. <https://doi.org/10.1007/s10162-022-00837-3>
15. 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 motor cortex and subthalamic nucleus activity during speech. *Cerebral Cortex*, 32(7), 1337–1349. <https://doi.org/10.1093/cercor/bhab251>
16. Zhang, H., Wiener, S., & Holt, L. L. (2022). Adjustment of cue weighting in speech by speakers and listeners: Evidence from amplitude and duration modifications of mandarin chinese tone. *The Journal of the Acoustical Society of America*, 151(2), 992–1005. <https://doi.org/10.1121/10.0009378>
17. DiNino, M., Holt, L. L., & Shinn-Cunningham, B. G. (2021). Cutting through the noise: Noise-induced cochlear synaptopathy and individual differences in speech understanding among listeners with normal audiograms. *Ear & Hearing*, 43(1), 9–22. <https://doi.org/10.1097/aud.0000000000001147>

18. Zhao, S., Brown, C. A., Holt, L. L., & Dick, F. (2022). Robust and efficient online auditory psychophysics. *Trends in Hearing*, 26, 233121652211187. <https://doi.org/10.1177/23312165221118792>
19. 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. <https://doi.org/10.1016/j.jneuroling.2021.101019>
20. Zhang, X., Wu, Y. C., & Holt, L. L. (2021). The learning signal in perceptual tuning of speech: Bottom up versus top-down information. *Cognitive Science*, 45(3). <https://doi.org/10.1111/cogs.12947>
21. Gabay, Y., & Holt, L. L. (2020). Adaptive plasticity under adverse listening conditions is disrupted in developmental dyslexia. *Journal of the International Neuropsychological Society*, 27(1), 12–22. <https://doi.org/10.1017/s1355617720000661>
22. Laffere, A., Dick, F., Holt, L. L., & Tierney, A. (2021). Attentional modulation of neural entrainment to sound streams in children with and without ADHD. *NeuroImage*, 224, 117396. <https://doi.org/10.1016/j.neuroimage.2020.117396>

## PREPRINTS

1. Vissani, M., Bush, A., Lipski, W. J., Fischer, P., Neudorfer, C., Holt, L. L., Fiez, J. A., Turner, R. S., & Richardson, R. M. (2023). *Speech induces spatiotemporal and frequency specific subthalamic-cortical spike-phase coupling events*. <https://doi.org/10.1101/2023.10.18.562969>
2. Wu, Y. C., Viswanathan, V., Abel, T. J., & Holt, L. L. (2022). *Auditory cortical responses to speech are shaped by statistical learning of short-term speech input regularities*. <https://doi.org/10.1101/2022.12.19.520832>
3. Hodson, A. J., Shinn-Cunningham, B., & Holt, L. L. (2022). *Statistical learning across passive listening adjusts perceptual weights of speech input dimensions*. <https://doi.org/10.31234/osf.io/4kxz3>
4. Smith, E., Holt, L. L., & Dick, F. (2022). *A one-man bilingual cocktail party: Linguistic and non-linguistic effects on bilinguals' speech comprehension in mandarin and english*. <https://doi.org/10.31234/osf.io/k8rzt>

## BOOKS

1. Holt, L. L. (2022). *The auditory cognitive neuroscience of speech perception in context*. Speech Perception.

## BOOK CHAPTERS

# Professional Presentations

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## Breaking auditory psychophysics out of the laboratory

46TH ANNUAL MIDWINTER MEETING OF THE ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY

2023

## Category learning and dimension-selective attention in auditory cortex

46TH ANNUAL MIDWINTER MEETING OF THE ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY

2023

## Listening in on auditory learning

UNIVERSITY OF ROCHESTER

2023

## Listening in on auditory learning

DUOLINGO HEADQUARTERS

2022

## Listening in on auditory learning

THE UNIVERSITY OF TEXAS AT AUSTIN

2022

## Statistical learning is supported by multiple mechanisms

TEX 2022

2022

## Incidental auditory category learning and its implications for language acquisition

IEEE HAPTICS SYMPOSIUM

2021

## 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

2021

## Listening in on auditory learning

CORNELL UNIVERSITY

2021

## Online regularities and prior knowledge conspire to shape speech perception

TRIESTE ENCOUNTER ON COGNITIVE SCIENCE (TEX) 2021: PREDICTIVE PROCESSES AND STATISTICAL LEARNING

2021

## Speech perception in context

UNIVERSITY OF MARYLAND

2021

## Supervised error-driven learning in speech perception

ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY

2021

# Conference Abstracts

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## Auditory attention guides statistical learning across competing speech regularities

PSYCHONOMICS SOCIETY MEETING

2023

## Children and adults with developmental dyslexia are impaired in Incidental learning of complex sound categories

INTERNATIONAL WORKSHOP ON READING AND DEVELOPMENTAL DYSLEXIA

2023

## Human intracranial responses to speech: Latency and attention effects

ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY,

2023

## Impaired Incidental learning of complex sound categories in children and adults with dyslexia

10TH ISRAELI CONFERENCE ON COGNITION RESEARCH (ISCOp)

2023

## Investigation of intracerebral auditory cortex electrophysiology and spectrotemporal feature processing in human auditory cortex using voice-like acoustic stimuli

ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE

2023

## Listening to the present in relation to the past to predict the future

PSYCHONOMICS SOCIETY MEETING

2023

## Neural correlates of statistically-driven auditory selective attention

ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE

2023

## Neural signatures of adaptive plasticity in speech perception as measured with human intracranial stereo-electroencephalography

ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY

2023

## Passive statistical learning of speech distributions is not constrained to specific phonemes

PSYCHONOMICS SOCIETY MEETING

2023

## Perceptual Statistical Learning Transfer to Speech Perception Even with Sparse Production Opportunities

PSYCHONOMICS SOCIETY MEETING

2023

## Separable effects of speech input statistics on phonetic and talker processing

PSYCHONOMICS SOCIETY MEETING

2023

## Statistical learning of task-irrelevant acoustic dimensions

ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE

2023

## Statistical regularities across task-irrelevant dimensions impact auditory decisions.

ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY

2023

## Statistical regularities of accented speech influence listeners' own speech productions

ACOUSTICAL SOCIETY OF AMERICA

2023

## The influence of sound statistics on auditory decisions in ferrets

ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE

2023

## Tracking engagement in real-world human communication using wearable sensors

ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE

2023

<b>Using frequency selectivity to examine category-informative dimension-selective attention</b>	
SOCIETY FOR NEUROBIOLOGY OF LANGUAGE	2023
<b>Using frequency selectivity to examine category-informative dimension-selective attention</b>	
ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE	2023
<b>Using frequency selectivity to examine category-informative dimension-selective attention</b>	
ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY	2023
<b>Activity in the subthalamic nucleus indexes the coupling of articulation and vocal intensity</b>	
SOCIETY FOR THE NEUROBIOLOGY OF LANGUAGE	2022
<b>Dimension-based statistical learning in older adults</b>	
PROCEEDINGS OF THE COGNITIVE SCIENCE SOCIETY	2022
<b>Dimension-based statistical learning in older adults</b>	
COGNITIVE SCIENCE SOCIETY	2022
<b>Distributional speech regularities maintained across long delays influence perceptual weighting of speech input</b>	
63RD ANNUAL MEETING OF THE PSYCHONOMIC SOCIETY	2022
<b>Intracerebral investigation of the neural representation of voice in human auditory cortex using voice-like acoustic stimuli</b>	
1ST INTERDISCIPLINARY CONFERENCE ON VOICE IDENTITY (VOICEID): PERCEPTION, PRODUCTION, AND COMPUTATIONAL APPROACHES	2022
<b>Neural systems underlying source- and dimension-based auditory selective attention to naturalistic speech</b>	
SOCIETY FOR THE NEUROBIOLOGY OF LANGUAGE	2022
<b>Phonetic-Intensity Encoding in the Precentral Gyrus and Subthalamic Nucleus</b>	
MOTOR SPEECH CONFERENCE	2022
<b>Statistical learning guides auditory attention</b>	
COGNITIVE SCIENCE SOCIETY	2022
<b>Statistical learning transfers from speech perception to production</b>	
THE 12TH INTERNATIONAL WORKSHOP ON LANGUAGE PRODUCTION (IWOLP)	2022
<b>Statistical regularities of task-irrelevant dimensions impact auditory decisions.</b>	
ACOUSTICAL SOCIETY OF AMERICA	2022
<b>The influence of sound statistics on auditory decisions in ferrets</b>	
ADVANCES AND PERSPECTIVES IN AUDITORY NEUROSCIENCE	2022
<b>The influence of sound statistics on auditory decisions in ferrets</b>	
SOCIETY FOR NEUROSCIENCE	2022
<b>Using frequency selectivity to examine category-informative dimension-selective attention</b>	
SOCIETY FOR THE NEUROBIOLOGY OF LANGUAGE	2022
<b>erceptual adaptation to speech input statistics is driven by predictions from category representations</b>	
	2022
<b>sing frequency selectivity to examine category-informative dimension-selective attention.</b>	
ACOUSTICAL SOCIETY OF AMERICA	2022

Honors

<b>Fellow</b>	New York, US
ACOUSTICAL SOCIETY OF AMERICA	2022

Funding

**The Behavioral Brain (B2) Research Training Program**

FUNDING: \$735,628

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

FUNDING: \$1,034,150

**Flexible representation of speech in the supratemporal plane.**

FUNDING: \$523,837

**Behavioral outcomes and neurobiological mechanisms of sustained auditory selective attention**

FUNDING: \$2,093,753

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

FUNDING: \$824,987

**Transfer of statistical learning from perception to production**

FUNDING: \$553,741

**SYMPOSIUM ON COGNITIVE AUDITORY NEUROSCIENCE (SCAN)**

FUNDING: \$74,132

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

FUNDING: \$979,550

**Doctoral Dissertation Research: Mechanisms of adaptive plasticity in speech perception**

FUNDING: \$16,319

**Predoctoral Training Program in Behavioral Brain Research**

FUNDING: \$4,324,296

*National Institute of General  
Medical Sciences, T32GM142630*

*2022 - 2027*

*Directorate for Social, Behavioral &  
Economic Sciences, 2219521*

*2022 - 2025*

*National Institute on Deafness and  
Other Communication Disorders,*

*R21DC019217*

*2021 - 2024*

*National Institute on Deafness and  
Other Communication Disorders,*

*R01DC017734*

*2020 - 2024*

*Directorate for Social, Behavioral &  
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Economic Sciences, 2217415*

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*National Institute on Deafness and  
Other Communication Disorders,*

*R13DC018243*

*2020 - 2023*

*Directorate for Social, Behavioral &  
Economic Sciences, 1655126*

*2017 - 2023*

*Directorate for Social, Behavioral &  
Economic Sciences, 1941357*

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*National Institute of General  
Medical Sciences, T32GM081760*

*2007 - 2022*

**Service**

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*Maastricht, NL*

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<b>Open Mind</b>	Cambridge, US
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<b>Center for the Neural Basis of Cognition</b>	Pittsburgh, US
CO-DIRECTOR	2022 - 2023
<b>Symposium for Cognitive Auditory Neuroscience</b>	Pittsburgh, US
FOUNDING ORGANISER	2020 - 2023
<b>Carnegie Mellon University</b>	Pittsburgh, US
NIH (NIGMS) T32 TRAINING GRANT, T32GM081760, PREDOCTORAL TRAINING AT THE INTERFACE OF THE BEHAVIORAL AND BIOMEDICAL SCIENCES	2007 - 2023

Mentoring and Teaching

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MENTORING

<b>Jasmine Hect (MD/PhD, F30 NRSA Fellow)</b>	
F30 NRSA FELLOW MENTOR	NA - present
<b>Dr. Alexandria Vail</b>	
POSTDOCTORAL MENTOR	2024 - present
<b>Dr. Craig Thorburn</b>	
POSTDOCTORAL MENTOR	2023 - present
<b>Dr. Sahil Luthra, F32 NRSA Postdoctoral Fellow</b>	
POSTDOCTORAL MENTOR	2021 - 2025
<b>Dr. Franziska Broker, Distinguished Postdoctoral Fellow</b>	
POSTDOCTORAL MENTOR	2023 - 2024
<b>Austin Luor</b>	
DISSERTATION SUPERVISOR	2020 - 2024
<b>Timothy Murphy</b>	
DISSERTATION SUPERVISOR	NA - 2024
<b>Jenah Black</b>	
DISSERTATION SUPERVISOR	NA - 2023
<b>Chisom Obasih</b>	
DISSERTATION SUPERVISOR	NA - 2023
<b>Alana Hodson</b>	
DISSERTATION SUPERVISOR	NA - 2023
<b>Sunreeta Bhattacharya</b>	
GRADUATE STUDENT RESEARCH ROTATION SUPERVISOR	NA - 2023

TEACHING

<b>PSY332 - Behavioral Neuroscience</b>	
INSTRUCTOR	2024 - present
<b>PSY308 - Biopsychology</b>	
INSTRUCTOR	2023 - present