

Yune S. Lee, Ph.D.

Department of Speech, Language, and Hearing, School of Behavioral and Brain Sciences
The University of Texas at Dallas
Tel: 1-603-443-0505 (cell); E-mail: yune.lee@utdallas.edu

Education & Training

University of Pennsylvania, Philadelphia, PA **2011 – 2016**
Department of Neurology & Center for Cognitive Neuroscience
Postdoctoral Research Fellow

Dartmouth College, Hanover, NH **2005 – 2010**
Dept. of Psychological and Brain Sciences
Ph.D. in Cognitive Neuroscience

Employment

The University of Texas at Dallas, Richardson, TX **Aug. 2020 – Present**
Assistant Professor
Department of Speech, Language, and Hearing, School of Behavioral and Brain Sciences

The Ohio State University, Columbus, OH **Aug. 2016 – July 2020**
Assistant Professor
Department of Speech and Hearing Sciences / Chronic Brain Injury, Discovery Themes

Grant

Extramural Funding

Speech Hero: a rhythm-based speech therapy app for individuals with aphasia

- Agency: NIH Small Business Innovation Research (Grant No: 614362)
- Role: Consortium PI
- Direct cost: \$150,201
- Duration: 06/01/2020 – 05/31/2021

Investigating the Neural Mechanisms of Language Recovery Through Rhythm Gaming Therapy in Aphasia

- Agency: National Institutes of Health (NIDCD; Grant No:1R21DC018699-01)
*No ESI advantage is applied
- Role: PI
- Direct cost: \$275,000; Total cost: \$429,000
- Duration: 01/01/2020 – 12/31/2021

TRIPODS + X Project: An MBI TGDA + Neuro Program for Undergraduates

- Agency: National Scientific Foundation (Grant No: NSF-CCF 1839356)
 - Role: co-I (PI: Janet Best)
 - Direct cost: \$200,000
 - Duration: 09/01/2018 – 08/31/2020
- ** Our fMRI pilot data was featured in the front page of the NSF website

Drum Dance Rehabilitation: A Novel Parkinson's Disease Therapy Program

- Agency: The Parkinson's Foundation (Grant No: PF-CGP-19163)
- Role: PI
- Direct cost: \$37,000
- Duration: 09/01/2019 – 8/31/2020

Application of fNIRS to Neuroscience Research of Speech, Language, and Music

- Agency: Shimadzu Scientific Instrument, Japan
- Role: PI
- Direct cost: \$380,000
- Duration: 12/18/2017 – 12/17/2018

Brain-based evaluation of SoundMind – a Computerized Cognitive Training Program

- Agency: Tech Incubator Program for Startup (TIPS) in Korea (Grant No: S2640193)
- Role: PI (sub-contract)
- Direct cost: \$6,3000
- Duration: 01/01/2019 – 12/31/2019

Music and Language Skills in Korean Children

- Agency: Korea Advanced Institute of Science and Technology
- Role: co-I (PI: Kyung-Myun Lee)
- Direct cost: \$20,000
- Duration: 09/01/2018 – 08/31/2020

Intramural Funding

Investigating Compensatory Language Processes Prompt by Rhythm Video Game Therapy

- Agency: Chronic Brain Injury Discovery Theme, OSU
- Role: PI
- Direct cost: \$50,000
- Duration: 01/01/2017 – 12/31/2017

A Novel Parkinson's Disease Therapy Program for the Columbus Community

- Agency: Connect & Collaborate Grant Program
- Role: PI
- Direct cost: \$29,000
- Duration: 09/01/2019 – 8/31/2020

OSU Pilot Neuroimaging Grant

- Agency: College of Arts and Sciences, OSU
- Role: PI
- Direct cost: \$25,000
- Duration: 06/01/2018 – 05/31/2019

OSU Social and Behavioral Sciences Small Grant Program

- Agency: College of Arts and Sciences, OSU
- Role: PI
- Direct cost: \$4,000
- Duration: 09/01/2017 – 8/31/2017

OSU Social and Behavioral Sciences Special Grant

- Agency: College of Arts and Sciences, OSU
- Role: PI
- Direct cost: \$4,000
- Duration: 09/22/2018 – 09/21/2019

Travel Awards

ASHA Lesson for Success

- Agency: American Speech-Language-Hearing Association
- Role: early-career investigator
- Direct cost: entire travel expenses including registration fee
- Duration: 04/27/2020 – 04/29/2020

The Humanities and the Arts Travel Grant Program

- Agency: Global Arts and Humanities, Discovery Themes, OSU
- Role: co-I (PI: David Huron)
- Direct cost: \$10,000
- Duration: 08/01/2017 – 09/01/2017

Consulting Service

Powerless, Wireless, and Nontoxic Bio-telemetry Sensor and Communication System

- Agency: Korea Polytechnic University
- Role: Consultant (PI: Jae-Young Chung)
- Duration: 02/01/2018 – 01/31/2021

Manuscripts

Published Articles (peer-reviewed)

Moritz, M, Heard, M, Kim, H-W, **Lee, YS.** (In Press). Invariance of edit-distance to tempo in rhythm similarity, *Psychology of Music*.

Lee, YS, Ahn, SH, Holt, RF, Schellenberg, G. (2020). Rhythm and syntax processing in school-age children, *Developmental Psychology*. <https://doi.org/10.1037/dev0000969>

Heard, MJ & **Lee, YS.** (2020). Shared neural resources of rhythm and grammar: An ALE Meta-Analysis *Neuropsychologia*. 137,107284. ** *Corresponding author*

Lee, KM & **Lee, YS.** Beat Synchronization Development of Korean Elementary School Students, *The Korean Society for Music Theory* (2019). 26(2), 251-270. ** *Corresponding author*

Lee, YS, Wingfield, A, Min, NE, Jester, C, Kotloff, E, Grossman, M, Peelle, JE. (2018). Individual differences in hearing ability modulates the neural bases for speech comprehension. *eNeuro*.
***Featured in numerous media news including US News & World Report*

Lee, YS. (2018). Impact of subtle hearing loss on the cognition of young adults. *Hearing Journal*. 71(10):30, doi: 10.1097/01.HJ.0000547401.21466.27 **invited*.

Belyk, M, **Lee, YS**, Brown, S. (2018). How does human motor cortex regulate vocal pitch in singers? *Royal Society Open Science*. 5(8), 172208. <https://doi.org/10.1098/rsos.172208>.

Quandt, LC, **Lee, YS**, Chatterjee, A. (2017). Neural bases of action abstraction. *Biological Psychology*. 129(2017): 314-323.

Lee, YS, Zreik, J, Hamilton, RH. (2017). Patterns of neural activity predict picture-naming performance of a patient with chronic aphasia. *Neuropsychologia*. 94:52-60.

Lee, YS, Min, NE, Wingfield, A, Grossman, M, Peelle, JE. (2016). Acoustic richness modulates the neural networks supporting auditory sentence comprehension. *Hearing Research*. 333: 108-117, doi:10.1016/j.heares.2015.12.008.

Lee, YS, Peelle, JE, Kraemer, D, Lloyd, S, Granger, RH. (2015). Multivariate sensitivity to voice during auditory categorization. *Journal of Neurophysiology*. 114 (3): 1819-1826, doi: 10.1152/jn.00407.2014.

Lee, YS, Janata, P, Frost, C, Martinez, Z, Granger, RH. (2015). Melody recognition revisited: Influence of melodic Gestalt on the encoding of relational pitch information. *Psychonomic Bulletin & Review*. 22(1): 163-9, doi:10.3758/s13423-014-0653-y.

Wiener, M, **Lee, YS**, Lohoff, F, Coslett, HB. (2014). Individual differences in the morphometry and activation of time perception networks are influenced by genotype. *NeuroImage*. 89:10-22.

Raizada, RDS & **Lee, YS**. Smoothness without smoothing: why Naïve Bayes is not naïve for multisubject searchlight studies. (2013). *PLOS ONE*, 8(7): e69566.

Lee, YS, Turkeltaub, PE, Granger, RH, Raizada, RDS. (2012). Categorical speech processing in Broca's area. *Journal of Neuroscience*. 32(11): 3942-3948.

Lee, YS, Janata, P, Frost, C, Hanke, M, Granger, RH. (2011). Investigation of melodic contour processing in the brain using pattern-based fMRI. *NeuroImage*. 57(1): 293-300.

Russ, BE, **Lee, YS**, Cohen, YE. (2007). Neural and behavioral correlates of auditory categorization. *Hearing Research*. 229, 204-12.

Book Chapter

Lee, YS, Thaut, C, Santoni, C. (2019). Neurological music therapy for speech and language rehabilitation. *Oxford Handbook on Music and the Brain*. Oxford University Press.

Under Review

Yoon, Y-S, Gutierrez, M, Gifford, R, **Lee, YS**. Effects of residual threshold on integration efficiency between simulated acoustic simulation and bimodal hearing in consonant recognition, *International Journal of Audiology*. (Under Review).

In Preparation

Heard, MJ, Li, Xiangrui, **Lee, YS**. Hybrid Auditory fMRI Imaging: in pursuit of increasing data acquisition while decreasing the impact of scanner noise (presented at the Organization of Human Brain Mapping conference, 2019).

Lee, YS, Rogers, C, Min, NE, Wingfield, A, Grossman, M, Peelle, JE. Neural compensation supporting successful speech comprehension in normal aging.

Conference Presentation (2016—present)

- 2019 ACRM (American Congress of Rehabilitation Medicine)** **Nov. 2019**
Home-based rhythm video gaming therapy for Aphasia
Lee, YS. (Symposium Talk)
- 2019 SMPC (Society for Music Perception and Cognition)** **Aug. 2019**
Influence of rhythm and beat priming on receptive grammar task
Yen, S, Bendoly, D, Heard, H, Lee, YS. (Poster Presentation)
- Human perception of rhythm similarity: A multidimensional scaling evaluation
Moritz, M, Heard, M, Lee, YS. (Poster Presentation)
- 2019 Organization of Human Brain Mapping conference** **June 2019**
Exploring a hybrid auditory fMRI protocol combining ISSS and multiband sequences
Heard, M, Li, X, Wolfe, T, Lee, YS. (Poster Presentation)
- International Conference of Music Perception and Cognition, Montreal, CA** **July 2018**
Spontaneous rhythm tapping predicts ability of working memory in children.
Lee, YS, Corbeil, K, Ahn, SH. (Symposium Talk)
- International Conference of Music Perception and Cognition, Montreal, CA** **July 2018**
Shared Neural Resources of Rhythm and Grammar: An ALE Meta-Analysis.
Heard, MJ & Lee, YS. (Symposium Talk)
- Society for Neurobiology of Language, Baltimore, MD** **Nov. 2017**
Differences in hearing acuity among young adults modulate the neural basis for speech communication (Poster Presentation)
Lee, YS, Wingfield, A, Min, NE, Jester, C, Kotloff, E, Grossman, M, Peelle, JE.
- Society for Neurobiology of Language, Baltimore, MD** **Nov. 2017**
Rhythm sensitivity assists in overcoming acoustic and syntactic challenges during speech listening (Poster Presentation)
Ahn, S, Golthwaite, I, Corbeil K, Byrer A, Perry K, Polakampalli A, Miller K, Holt, RF, Lee, YS.

Invited Talks

- 2020**
- Colloquium Series, Music and Health Science Research Collaboratory** **Feb. 2020**
University of Toronto, Toronto, Canada
- Colloquium, the Cognitive and Behavioral Science, Neuroscience and Music Department, Washington and Lee University, VA** **Feb. 2020**

2019

- CCBS Undergraduate Summer Institute, OSU** July 2019
Music matters?
- Otolaryngology Department Seminar, Washington University in St. Louis, MO** May 2019
The neural and genetic mechanisms underlying connection between music and language
- CBI Research Day, OSU** Mar. 2019
Where is neuroimaging going?
- Topology, Geography, and Data Seminar, OSU** Jan. 2019
The connection between speech, language, and music

2018

- The Philadelphia Korean Scholar Association (PKSA) Symposium, Philadelphia, PA** Dec. 2018
The connection between speech, language, and music (*keynote speech*)
- HAMIC (Humanities and Music Interdisciplinary Colloquium), OSU** Nov. 2018
The connection between speech, language, and music
- NGP (Neuroscience Graduate Program) Fall retreat, OSU** Sep. 2018
The connection between speech, language, and music
- MBI-CBI Mini-symposium on Quantitative Neuroscience, OSU** Sep. 2018
Behavioral and neural connection between speech, language, and music
- CCBS (Center for Cognitive and Brain Sciences) Fall retreat, OSU** Sep. 2018
Spontaneous rhythm tapping predicts working memory ability in children
- OSU Electrical & Computer Engineering Research Group Meeting** Aug. 2018
The new frontiers in neurorehabilitation of communication disorders
- OSU HumCog Summer Institute** Aug. 2018
Brain, Music, and Well-being
- OSU Joint Oto-SHS meeting** June 2018
Differences in hearing acuity among “Normal-Hearing” young adults
Modulate the neural basis for speech communication
- Korea Society for Music Perception and Cognition (KSMPC)** May 2018
The connection between speech, language, and music (*keynote speech*)
- Annual Brain Health & Performance Summit, Columbus, OH** Mar. 2018
Rhythm-based rehabilitation for communication disorders
- Annual TBI Summit, Columbus, OH** Mar. 2018
Brain, Music, and Well-being

Cognitive Proseminar, Dept. of Psychology, OSU Jan. 2018
The connection between speech, language, and music

2017

KSEA SW Ohio Chapter Seminar, University of Cincinnati, Cincinnati, OH Dec. 2017
Brain, Music, and Well-being

Panelist at 2017 Brain Health and Performance Summit, Columbus, OH Dec. 2017
Arts-based Rehabilitation

“Aging in Community” International Standardization Symposium, S. Korea Dec. 2017
Neural compensation supporting successful communication in normal aging

KSEA Ohio Chapter Seminar, The Ohio State University, Columbus, OH April 2017
Mind decoding: New Frontiers in NeuroImaging

2016

Eye and Ear Institute, The Ohio State University, Columbus, OH Dec. 2016
Predicting CI outcome using novel neuroimaging techniques

OSU music cognition group, The Ohio State University, Columbus, OH Sep. 2016
Rhythm-based rehabilitation for communication disorders

The Haskins Laboratories, New Haven, CT May 2016
New frontiers in brain-based rehabilitation for communication disorders

Adhoc Reviewer

American Journal of Speech-Language Pathology	Brain & Language, Cerebral Cortex
Clinical Archives of Communication Disorders	Cortex
Frontiers in Human Neuroscience	Human Brain Mapping
Hearing Research	International Journal of Psychophysiology
International Journal of Imaging Systems and Technology	Journal of Cognitive Neuroscience
Journal of Cognitive Science	Journal of Neuroscience
Journal of Neurophysiology	NeuroImage
NeuroImage Clinical	Neurocase
Magnetic Resonance Imaging	Scientific Reports

Course Taught

Neural basis of Speech, Language, and Music Fall, 2020

Guest Lecturer for and undergraduate class on Music and the Brain, KAIST (Korea Advanced Institute of Science and Technology) Oct. 2018

Guest Lecturer for an SLP Master’s program, The Ohio State University SHS 5785 Autumn 2017 Nov. 2017

Neurology of Speech and Hearing, The Ohio State University SHS 5760, undergraduate course	2017 – present
NeuroImaging for Speech, Language, and Music, The Ohio State University SHS 8950, seminar course for graduate & undergraduate students	2017 – present
Statistics, The Ohio State University SHS 6786, seminar course for first year graduate students	2017 – present
Guest Lecturer for an undergraduate class, The Ohio State University 5700 Language POD Course SP 2017	April 2017

Student Advising

Graduate students advised

Matthew Heard, Ph.D. student	May 2018 – present
Hyun-Woong Kim, Ph.D. student	Aug. 2019 – present
Kristen McCormak, MA-SLP student	Jan. 2018 – Dec. 2019
Karl Velik, Au.D. student	Aug. 2018 – July 2019
Geoffrey Green, Ph.D. student	Aug. 2018 – Dec. 2018

Undergraduate students

Kate Corbeil, Speech and Hearing Science	Sep. 2016 – April 2018
Sanghoon Ahn, Neuroscience	Sep. 2016 – April 2018
Kathy Guo, Computer Science & Engineering	Mar. 2017 – April 2019
Matthew Moritz, Neuroscience	Jan. 2018 – present
Singyi Yen, Neuroscience	May 2018 – Sep. 2019
Yue Zhang, Computer Science & Engineering	Feb. 2019 – Dec. 2019
Emily Cushing, Biology	Sep. 2018 – Dec. 2019
Megan Hoadley, Speech and Hearing Science	Jan. 2019 – Dec. 2019
Cristina Perez Diunkina, Data Analytics	Jan. 2019 – Dec. 2019
Jeanette Gardner, Psychology	May 2019 – present
Lydia Noh, Biology	May 2019 – present

Thesis defense, candidacy exam, and fellowship committee

Deena Blackett, Ph.D. candidacy exam	May 2017
Alexandria Zezinka, Ph.D. candidacy exam	Mar. 2018
Marjorie Freggens, Master thesis (Psychology) defense	Mar. 2018
Trevor Marcho, CCBS Summer GRA Award	April 2018
Lindsey Reymore, CCBS Summer GRA Award	April 2019
Elizabeth Monzingo, CCBS Summer GRA Award	April 2019
Lucia Benetti, Ph.D. dissertation thesis defense	May 2019
Benjamin Seicol, CCBS GRA fellowship award	May 2019
Jeanette Gardner, CCBS undergraduate fellowship award	May 2019

University / Community / Academic Services (2016 — present)

External Reviewer for Clinical and Translational Science Awards Auburn University	Feb. 2020
Session chair of a mini-symposium session American Congress of Rehab. & Medicine (ACRM)	Nov 2019
President of KSEA (Korean-American Scientists and Engineering Association) Ohio Chapter	July 2019 – present
External Reviewer for Clinical and Translational Science Awards University of Washington	Oct. 2018
The STEP (Second-year Transformational Education Program) Faculty mentor at OSU	Sep. 2017 – April 2019
CBI-sponsored monthly fNIRS seminar series	Sep. 2017 – present
Department's of Speech & Hearing Science Facilities Committee	Oct. 2017 – Sep. 2018
Department's Speech & Hearing Science Facilities Chair	Sep. 2018 – Aug. 2019
Department's Speech & Hearing Science Event Committee	Fall 2017 – Spring 2018
Department's Speech & Hearing Science Hooding Ceremony Event Committee	Fall 2019 – Present
Department's Undergraduate Course Curriculum Committee	Fall 2019 – Present

Session chair, International Conference of Music Perception and Cognition	July 2018
Public seminar at the Ohio Living nursing home	Aug. 2017
Public seminar at the Arlington court nursing home	July 2017
Reviewer for STEAM Powered project grants	July 2017

Media Coverage

<u>Medical News Today: Early hearing loss could pave the way for dementia</u>	May 2018
<u>Neurosciencenews.com: Subtle hearing loss while young alters brain function</u>	May 2018
<u>US News & World Report: The New Brain Drain</u>	June 2018
<u>Healthline: A minor hearing loss now can mean major dementia risk later</u>	July 2018
<u>Podcast interview with Parsing Neuroscience</u>	Aug. 2018
<u>NSF featuring our fMRI study investigating rhythm and grammar</u>	Sep. 2018
<u>OSU Alumni Magazine: Healing with a beat</u>	June 2019