

# Jonathan Erik Peelle

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## Current Position

Associate Professor 2022–  
Northeastern University  
Center for Cognitive and Brain Health  
Department of Communication Sciences and Disorders  
Department of Psychology

Honorary Associate Professor, Macquarie University 2020–

## Education

PhD (Neuroscience), Brandeis University (Advisor: Arthur Wingfield) 2005  
MA (Cognitive Psychology), Brandeis University 2002  
BA (Psychology), BMus (Horn performance), Houghton College 1999

## Past Academic Positions and Employment

Associate Professor, Otolaryngology, Washington University in St. Louis 2017–2022  
Assoc. Professor, Psychological & Brain Sciences, Washington University 2017–2022  
Assistant Professor, Otolaryngology, Washington University 2012–2017  
Research Associate, Department of Neurology, University of Pennsylvania 2011–2012  
Postdoctoral fellow, MRC Cognition & Brain Sciences Unit, Cambridge UK 2008–2010  
Postdoctoral fellow, Department of Neurology, University of Pennsylvania 2006–2008  
Postdoctoral fellow, Volen National Center, Brandeis University 2005–2006

## Honors and Awards

Fellow, Psychonomic Society	2016
Royal Society International Travel Award	2010
Individual NRSA F31DC004376	2003
American Psychological Association (APA) Dissertation Research Award	2003
APA Division 20 Award for Proposed Doctoral Research	2003

## Research

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### Research Interests

My research is centered on the psychological and neural basis for human communication. I am especially interested in the interaction between sensory, cognitive, and social factors, and individual differences in how different people perceive speech. Because of the central role of spoken language in our everyday lives, understanding contributors to communication success—and how these might be modified—has implications for social, mental, and physical well-being.

### Current Grant Support

NIH R01 DC019507 (Role: PI) “Individual differences in brain networks supporting speech understanding in patients with cochlear implants”	2021–2026
McDonnell Center for Systems Neuroscience (Role: Co-PI) “Effects of single-sided deafness on the brain and behavioral outcomes in listeners with and without a cochlear implant”	2022–2024

### Completed Grant Support

NIH R01 DC017451 (Role: Co-investigator) “Measurement of individualized factors associated with tinnitus burden” (PI: Jay Piccirillo)	2019–2024
NIH R21 AG067295 (Role: Co-PI) “Healthy aging and the cost of cognitive effort”	2020–2023

NIH R01 DC016594 (Role: Co-investigator) “Audio-visual integration, age, and hearing loss” (PI: Nancy Tye-Murray)	2018–2023
NIH R56 AG059265 (Role: PI) “Age-related changes in language processing”	2019–2022
NIH K01 DC017522 (Role: Co-investigator) “Objective, subjective, and informant reports of hearing loss, personality, and cognition in adults with dementia” (PI: Kate McClannahan)	2020–2022
NIH R21 DC016086 (Role: Co-PI) “High-density optical tomography in patients with cochlear implants”	2018–2021
NIH R01 DC014281 (Role: PI) “The neurocognitive basis of effortful listening”	2015–2021
NIH R21 DC015884 (Role: PI) “Neural systems supporting speech processing in listeners with cochlear implants”	2017–2020
NIH R01 DC013063 (Role: Co-Investigator) “Semantic memory and language learning in Alzheimer’s Disease and Semantic Dementia” (PI: Jamie Reilly)	2014–2019
NIH R56 AG018029 (Role: Co-Investigator) “Auditory-visual integration and age” (PI: Nancy Tye-Murray)	2017–2018
NIH R01 AG038490 (Role: Co-Investigator) “Aging, hearing loss, and sentence comprehension: Neural correlates” (PI: Murray Grossman)	2012–2017

### **Book**

*The Neuroscience of Language* (In press) Cambridge University Press.

### **Preprints**

(\* indicates student/trainee author)

Crawford JL\*, Brough RE, Eisenstein SA, Pelle JE, Braver TS. Generalized encoding of the relative subjective value of cognitive effort in dorsal ACC. *PsyArXiv*.

doi:10.31234/osf.io/chk8v

McClannahan KS, McConkey S, Levitan J, Rodebaugh TL, Peelle JE. Social anxiety, negative affect, and hearing difficulties in adults. *PsyArXiv*. doi:10.31234/osf.io/pw9jk

Myerson J, Spehar BP, Strube MJ, Hale S, Tye-Murray N, Sommers MS, Peelle JE. Assessing visual speech communication abilities: Cross-situational consistency in lipreadability. *PsyArXiv*. doi:10.31234/osf.io/d4jtu

Reilly J et al. What we mean when we say semantic: A multi-disciplinary effort to specify a common nomenclature of semantic memory. *PsyArXiv*. doi:10.31234/osf.io/xrnb2

Rogers CS, Jones MS, McConkey S, McLaughlin DJ, Peelle JE. Real-time feedback reduces participant motion during task-based fMRI. *bioRxiv*. doi:10.1101/2023.01.12.523791

Sherafati A\*, Bajracharya A\*, Jones MS, ..., Peelle JE. A high-density diffuse optical tomography dataset of naturalistic viewing. *bioRxiv*. doi:10.1101/2023.11.07.565473

### Accepted Stage 1 Registered Reports

(\* indicates student/trainee author)

Crusey MR\*, Henry MJ, Peelle JE. The effect of top-down attention on rhythmic auditory entrainment. *Auditory Perception & Cognition*. ®

Henry MJ, Obleser J, Crusey MR\*, Peelle JE. How strong is the rhythm of perception? A preregistered direct replication of Hickok, Farahbod, and Saberi (2015). *Royal Society Open Science*. <http://peellelab.org/moo> ®

### Peer-Reviewed Publications

(84 total; \* indicates student/trainee author; ® indicates registered report)

Google Scholar profile : <http://jonathanpeelle.net/scholar>

2023

Carraturo S\*, McLaughlin DJ\*, Peelle JE, Van Engen KJ (2023) Pupillometry reveals differences in cognitive demands of listening to face mask-attenuated speech. *The Journal of the Acoustical Society of America* 154:3973–3985. doi:10.1121/10.0023953

Bajracharya A\*, Peelle JE (2023) A systematic review of neuroimaging approaches to mapping language in individuals. *Journal of Neurolinguistics* 68:101163. doi:10.1016/j.jneuroling.2023.101163

Aschenbrenner AJ, Crawford JL\*, Peelle JE, Fagan AM, Benzinger TLS, Morris JC, Hassentab J, Braver TS (2023) Increased cognitive effort costs in healthy aging and preclinical Alzheimer disease. *Psychology and Aging* 38:428–442. doi:10.1037/pag0000742

- Fullerton AM\*, Vickers DA, Luke R, Billing AN, McAlpine D, Hernandez-Perez H, Peelle JE, Monaghan JJM, McMahan CM (2023) Cross-modal functional connectivity supports successful speech understanding in listeners with cochlear implants. *Cerebral Cortex* 33:3350–3371. doi:10.1093/cercor/bhac277
- McLaughlin DJ\*, Zink M\*, Gaunt L\*, Reilly J, Sommers MS, Van Engen KJ, Peelle JE (2023) Give me a break! Unavoidable fatigue effects in cognitive pupillometry. *Psychophysiology* 60:e14256. doi:10.1111/psyp.14256
- Norton L, Kazazian K, Gofton T, Debicki DD, Fernández-Espejo D, Peelle JE, Al Thenayan E, Young GB, Owen AM (2023) Functional neuroimaging as an assessment tool in critically ill patients. *Annals of Neurology* 93:131–141. doi:10.1002/ana.26530

2022

- Van Engen KJ, Dey A, Sommers MS, Peelle JE (2022) Audiovisual speech perception: Moving beyond McGurk. *The Journal of the Acoustical Society of America* 152:3216–3225. doi:10.1121/10.0015262
- McClannahan KS, Mainardi E\*, Luor A\*, Chiu Y-F, Sommers MS, Peelle JE (2022) Spoken word recognition in adults with mild dementia symptoms. *Journal of Alzheimer's Disease* 90:749–759. doi:10.3233/JAD-215606
- Lee YS, Rogers CS, Grossman M, Wingfield A, Peelle JE (2022) Hemispheric dissociations in regions supporting auditory sentence comprehension in older adults. *Aging Brain* 2022:100051. doi:10.1016/j.nbas.2022.100051
- Jones MS, Zhu Z\*, Bajracharya A\*, Luor A\*, Peelle JE (2022) A multi-dataset evaluation of frame censoring for motion correction in task-based fMRI. *Aperture Neuro* 2. doi:10.52294/ApertureNeuro.2022.2.NXOR2026
- Sherafati A\*, Dwyer N, Bajracharya A\*, Hassanpour MS, Eggebrecht AT, Firszt JB, Culver JP, Peelle JE (2022) Prefrontal cortex supports speech perception in listeners with cochlear implants. *eLife* 11:e75323. doi:10.7554/eLife.75323
- Crawford JL\*, Eisenstein SA, Peelle JE, Braver TS (2022) Domain-general cognitive motivation: Evidence from economic decision-making – Final registered report. *Cognitive Research: Principles and Implications* 7:23. doi:10.1186/s41235-022-00363-z<sup>®</sup>
- McLaughlin DJ\*, Zink M\*, Gaunt L\*, Spehar B, Van Engen KJ, Sommers MS, Peelle JE (2022) Pupilometry reveals cognitive demands of lexical competition during spoken word recognition in young and older adults. *Psychonomic Bulletin and Review* 29:268–280. doi:10.3758/s13423-021-01991-0 Preprint: doi:10.31234/osf.io/6pa3g
- Peelle JE, Spehar B, Jones MS, McConkey S, Myerson J, Hale S, Sommers MS, Tye-Murray N (2022) Increased connectivity among sensory and motor regions during visual and

audiovisual speech perception. *Journal of Neuroscience* 42:435–442.

doi:10.1523/JNEUROSCI.0114-21.2021

2021

Peelle JE, Van Engen KJ (2021) Time stand still: Effects of temporal window selection on eye tracking analysis. *Collabra: Psychology* 7:25961. doi:10.1525/collabra.25961

Brown VA\*, Van Engen KJ, Peelle JE (2021) Face mask type affects audiovisual speech intelligibility and subjective listening effort in young and older adults. *Cognitive Research: Principles and Implications* 6:49. doi:10.1186/s41235-021-00314-0

Jiramongkolchai P\*, Jones MS, Lee JL, Peterson A, Schneider JS, Klatt-Cromwell C, Drescher AJ, Ogden MA, Brunworth JD, Kallogjeri D, Kukuljan S, Liebendorfer A, Peelle JE, Piccirillo JF (2021) Impact of olfactory training on neural connectivity in patients with post-viral olfactory dysfunction. *JAMA Otolaryngology–Head and Neck Surgery* 147:502–509. doi:10.1001/jamaoto.2021.0086

McClannahan KS, Chiu Y-F, Sommers MS, Peelle JE (2021) Test-retest reliability of audiometric assessment in individuals with mild dementia. *JAMA Otolaryngology–Head and Neck Surgery* 147:442–449. doi:10.1001/jamaoto.2021.0012

McLaughlin DJ\*, Braver TS, Peelle JE (2021) Measuring the subjective cost of listening effort using a discounting task. *Journal of Speech, Language, and Hearing Research* 64:337–347. doi:10.1044/2020\_JSLHR-20-00086

2020

Van Engen KJ, Dey A\*, Runge N\*, Spehar B, Sommers MS, Peelle JE (2020) Effects of age, word frequency, and noise on the time course of spoken word recognition. *Collabra: Psychology* 6:17247. doi:10.1525/collabra.17247

Rogers CS\*, Jones MS, McConkey S, Spehar B, Van Engen KJ, Sommers MS, Peelle JE (2020) Age-related differences in auditory cortex activity during spoken word recognition. *Neurobiology of Language* 1:452–473. doi:10.1162/nol\_a\_00021

Peelle JE, Miller RL, Rogers CS, Spehar B, Sommers MS, Van Engen KJ (2020) Completion norms for 3085 English sentence contexts. *Behavior Research Methods* 52:1795–1799. doi:10.3758/s13428-020-01351-1

Botvinik-Nezer R et al. (2020) Variability in the analysis of a single neuroimaging dataset by many teams. *Nature* 582:84–88. doi:10.1038/s41586-020-2314-9

Reilly J, Flurie M, Peelle JE (2020) The English lexicon mirrors functional brain activation for a sensory hierarchy dominated by vision and audition: Point-counterpoint. *Journal of Neurolinguistics* 55:100895. doi:10.1016/j.jneuroling.2020.100895

2018

- Whitson HE, Cronin-Golomb A, Cruickshanks K, Gilmore GC, Owsley C, Peelle JE, Recanzone G, Sharma A, Swenor B, Yaffe K, Lin FR (2018) American Geriatrics Society and National Institute on Aging bench-to-bedside conference: Sensory impairment and cognitive decline in older adults. *Journal of the American Geriatrics Society* 66:2052–2058. doi:10.1111/jgs.15506
- Lee YS\*, Wingfield A, Min NE, Kotloff E, Grossman M, Peelle JE (2018) Differences in hearing acuity in “normal” hearing young adults modulate the neural basis for speech comprehension. *eNeuro* 5:ENEURO.0263-17.2018. doi:10.1523/ENEURO.0263-17.2018
- Koeritzer MA\*, Rogers CS, Van Engen KJ, Peelle JE (2018) The impact of age, background noise, semantic ambiguity, and hearing loss on recognition memory for speech. *Journal of Speech, Language, and Hearing Research* 61:740–751. doi:10.1044/2017\_JSLHR-H-17-0077
- Peelle JE (2018) Listening effort: How the cognitive consequences of acoustic challenge are reflected in brain and behavior. *Ear and Hearing* 39:204–214. doi:10.1097/AUD.0000000000000494

2017

- Scott-Wittenborn N\*, Karadaghy O, Piccirillo JF, Peelle JE (2017) A methodological assessment of studies that use voxel-based morphometry to study tinnitus. *Hearing Research* 355:23–32. doi:10.1016/j.heares.2017.09.002
- Hassanpour MS\*, Eggebrecht AT, Peelle JE, Culver JP (2017) Mapping effective connectivity within cortical networks with diffuse optical tomography. *Neurophotonics* 4:041402. doi:10.1117/1.NPh.4.4.041402
- Peelle JE (2017) Optical neuroimaging of spoken language. *Language, Cognition and Neuroscience* 32:847–854. doi:10.1080/23273798.2017.1290810

2016

- Reilly J, Peelle JE, Garcia A, Crutch SJ (2016) Linking somatic and symbolic representation in semantic memory: The dynamic multilevel reactivation framework. *Psychonomic Bulletin and Review* 23:1002–1014. doi:10.3758/s13423-015-0824-5
- Peelle JE, Wingfield A (2016) The neural consequences of age-related hearing loss. *Trends in Neurosciences* 39:486–497. doi:10.1016/j.tins.2016.05.001
- Roland LT\*, Peelle JE, Kallogjeri D, Nicklaus JE, Piccirillo JF (2016) The effect of rTMS to temporoparietal cortex on neural connectivity in tinnitus: A randomized trial. *Laryngoscope* 126:1201–1206. doi:10.1002/lary.25650

- Price AR\*, Peelle JE, Bonner MF, Grossman M, Hamilton RH (2016) Causal evidence for a mechanism of semantic integration in the angular gyrus as revealed by high-definition transcranial direct current stimulation. *Journal of Neuroscience* 36:3829–3838. doi:10.1523/JNEUROSCI.3120-15.2016
- DeCaro R, Peelle JE, Grossman M, Wingfield A (2016) The two sides of sensory-cognitive interactions: Effects of age, hearing acuity, and working memory span on sentence comprehension. *Frontiers in Psychology* 7:236. doi:10.3389/fpsyg.2016.00236
- Lee YS\*, Min NE, Wingfield A, Grossman M, Peelle JE (2016) Acoustic richness modulates the neural networks supporting intelligible speech processing. *Hearing Research* 333:108–117. doi:10.1016/j.heares.2015.12.008
- Bonner MF, Price AR\*, Peelle JE, Grossman M (2016) Semantics of the visual environment encoded in the parahippocampal cortex. *Journal of Cognitive Neuroscience* 28:361–378. doi:10.1162/jocn\_a\_00908
- Ward CM\*, Rogers CS\*, Van Engen KJ, Peelle JE (2016) Effects of age, acoustic challenge, and verbal working memory on recall of narrative speech. *Experimental Aging Research* 42:126–144. doi:10.1080/0361073X.2016.1108785
- 2015
- Lee YS\*, Peelle JE, Kraemer D, Lloyd S, Granger R (2015) Multivariate sensitivity to voice during auditory categorization. *Journal of Neurophysiology* 114:1819–1826. doi:10.1152/jn.00407.2014
- Peelle JE, Sommers MS (2015) Prediction and constraint in audiovisual speech perception. *Cortex* 68:169–181. doi:10.1016/j.cortex.2015.03.006
- Hassanpour MS\*, Eggebrecht AT, Culver JP, Peelle JE (2015) Mapping cortical responses to speech using high-density diffuse optical tomography. *NeuroImage* 117:319–326. doi:10.1016/j.neuroimage.2015.05.058
- Roland LT\*, Lenze EJ, Hardin F-M, Kallogjeri D, Nicklaus JE, Wineland A, Fendell G, Peelle JE, Piccirillo JF (2015) The effects of mindfulness based stress reduction on subjective bother and neural connectivity in chronic tinnitus. *Otolaryngology—Head and Neck Surgery* 152:919–926. doi:10.1177/0194599815571556
- Winder-Rhodes SE, Hampshire A, Rowe JB, Peelle JE, Robbins TW, Owen AM, Barker RA (2015) *MAPT* haplotype influences memory function in Parkinson’s disease and healthy aging. *Neurobiology of Aging* 36:1519–1528. doi:10.1016/j.neurobiolaging.2014.12.006
- Price AR\*, Bonner MF, Peelle JE, Grossman M (2015) Converging evidence for the neuroanatomic basis of combinatorial semantics in the angular gyrus. *Journal of Neuroscience* 35:3276–3284. doi:10.1523/JNEUROSCI.3446-14.2015



Cusack R, Vicente-Grabovetsky A, Mitchell DJ, Wild CJ, Auer T, Linke AC, Peelle JE (2015) Automatic analysis (aa): Efficient neuroimaging workflows and parallel processing using Matlab and XML. *Frontiers in Neuroinformatics* 8:90. doi:10.3389/fninf.2014.00090

2014

Peelle JE (2014) Methodological challenges and solutions in auditory functional magnetic resonance imaging. *Frontiers in Neuroscience* 8:253. doi:10.3389/fnins.2014.00253

Cook PA, McMillan CT, Avants BB, Peelle JE, Gee JC, Grossman M (2014) Relating brain anatomy and cognitive ability using a multivariate multimodal framework. *NeuroImage* 99:477–486. doi:10.1016/j.neuroimage.2014.05.008

Van Engen KJ, Peelle JE (2014) Listening effort and accented speech. *Frontiers in Human Neuroscience* 8:577. doi:10.3389/fnhum.2014.00577

Peelle JE, Powers J, Cook PA, Smith EE, Grossman M (2014) Frontotemporal neural systems supporting semantic processing in Alzheimer's disease. *Cognitive, Affective, and Behavioral Neuroscience* 14:37–48. doi:10.3758/s13415-013-0239-6

Sohoglu E\*, Peelle JE, Carlyon RP, Davis MH (2014) Top-down influences of written text on perceived clarity of degraded speech. *Journal of Experimental Psychology: Human Perception and Performance* 40:186–199. doi:10.1037/a0033206

2013

Peelle JE, Chandrasekaran K, Powers J, Smith EE, Grossman M (2013) Age-related vulnerability in the neural systems supporting semantic processing. *Frontiers in Aging Neuroscience* 5:46. doi:10.3389/fnagi.2013.00046

Peelle JE, Gross J, Davis MH (2013) Phase-locked responses to speech in human auditory cortex are enhanced during comprehension. *Cerebral Cortex* 23:1378–1387. doi:10.1093/cercor/bhs118

Bonner MF\*, Peelle JE, Cook PA, Grossman M (2013) Heteromodal conceptual processing in the angular gyrus. *NeuroImage* 71:175–186. doi:10.1016/j.neuroimage.2013.01.006

Grossman M, Peelle JE, Smith EE, McMillan CT, Cook P, Powers J, Dreyfuss M, Bonner MF, Richmond L, Boller A, Camp E, Burkholder L (2013) Category specific semantic memory: Converging evidence from BOLD fMRI and Alzheimer's disease. *NeuroImage* 68:263–274. doi:10.1016/j.neuroimage.2012.11.057

2012

- Peelle JE (2012) The hemispheric lateralization of speech processing depends on what “speech” is: A hierarchical perspective. *Frontiers in Human Neuroscience* 6:309. doi:10.3389/fnhum.2012.00309
- Wild CJ, Yusuf A, Wilson D, Peelle JE, Davis MH, Johnsrude IS (2012) Effortful listening: The processing of degraded speech depends critically on attention. *Journal of Neuroscience* 32:14010–14021. doi:10.1523/jneurosci.1528-12.2012
- Peelle JE, Davis MH (2012) Neural oscillations carry speech rhythm through to comprehension. *Frontiers in Psychology* 3:320. doi:10.3389/fpsyg.2012.00320
- Reilly J, Westbury C, Kean J, Peelle JE (2012) Arbitrary symbolism in natural language revisited: When word forms carry meaning. *PLOS ONE* 7:e42286. doi:10.1371/journal.pone.0042286
- Sohoglu E\*, Peelle JE, Carlyon RP, Davis MH (2012) Predictive top-down integration of prior knowledge during speech perception. *Journal of Neuroscience* 32:8443–8453. doi:10.1523/jneurosci.5069-11.2012
- Szenkovits G, Peelle JE, Norris D, Davis MH (2012) Individual differences in premotor and motor recruitment during speech perception. *Neuropsychologia* 50:1380–1392. doi:10.1016/j.neuropsychologia.2012.02.023
- Peelle JE, Cusack R, Henson RNA (2012) Adjusting for global effects in voxel-based morphology: Gray matter decline in normal aging. *NeuroImage* 60:1503–1516. doi:10.1016/j.neuroimage.2011.12.086

2011

- Peelle JE, Troiani V, Grossman M, Wingfield A (2011) Hearing loss in older adults affects neural systems supporting speech comprehension. *Journal of Neuroscience* 31:12638–12643. doi:10.1523/jneurosci.2559-11.2011
- Rogalski Y, Peelle JE, Reilly J (2011) Effects of perceptual and contextual enrichment on visual confrontation naming in adult aging. *Journal of Speech, Language, and Hearing Research* 54:1349–1360. doi:10.1044/1092-4388(2011/10-0178)
- Reilly J, Peelle JE, Antonucci SM, Grossman M (2011) Anomia as a marker of distinctive semantic memory impairments in Alzheimer’s Disease and Semantic Dementia. *Neuropsychology* 25:413–426. doi:10.1037/a0022738
- Reilly J, Rodriguez AD, Peelle JE, Grossman M (2011) Frontal lobe damage impairs process and content in semantic memory: Evidence from category-specific effects in progressive non-fluent aphasia. *Cortex* 47:645–658. doi:10.1016/j.cortex.2010.05.005

2010

- Peelle JE, Eason RJ\*, Schmitter S, Schwarzbauer C, Davis MH (2010) Evaluating an acoustically quiet EPI sequence for use in fMRI studies of speech and auditory processing. *NeuroImage* 52:1410–1419. doi:10.1016/j.neuroimage.2010.05.015
- Peelle JE, Johnsrude IS, Davis MH (2010) Hierarchical processing for speech in human auditory cortex and beyond. *Frontiers in Human Neuroscience* 4:51. doi:10.3389/fnhum.2010.00051
- Peelle JE, Troiani V, Wingfield A, Grossman M (2010) Neural processing during older adults' comprehension of spoken sentences: Age differences in resource allocation and connectivity. *Cerebral Cortex* 20:773–782. doi:10.1093/cercor/bhp142

2005–2009

- Troiani V, Peelle JE, McMillan C, Clark R, Grossman M (2009) Magnitude and parity as complementary attributes of quantifier statements. *Neuropsychologia* 47:2684–2685. doi:10.1016/j.neuropsychologia.2009.04.025
- Peelle JE, Troiani V, Grossman M (2009) Interaction between process and content in semantic memory: An fMRI study of noun feature knowledge. *Neuropsychologia* 47:995–1003. doi:10.1016/j.neuropsychologia.2008.10.027
- Troiani V, Peelle JE, Clark R, Grossman M (2009) Is it logical to count on quantifiers? Dissociable neural networks underlying quantity-based and logical quantifiers. *Neuropsychologia* 47:104–111. doi:10.1016/j.neuropsychologia.2008.08.015
- Peelle JE, Troiani V, Gee J, Moore P, McMillan C, Vesely L, Grossman M (2008) Sentence comprehension and voxel-based morphometry in progressive nonfluent aphasia, semantic dementia, and nonaphasic frontotemporal dementia. *Journal of Neurolinguistics* 21:418–432. doi:10.1016/j.jneuroling.2008.01.004
- Golomb JD\*, Peelle JE, Addis KM, Kahana MJ, Wingfield A (2008) Effects of adult aging on utilization of temporal and semantic associations during free and serial recall. *Memory and Cognition* 36:947–956. doi:10.3758/MC.36.5.947
- Reilly J, Peelle JE (2008) Effects of semantic impairment on language processing in semantic dementia. *Seminars in Speech and Language* 29:32–43.
- Peelle JE, Grossman M (2008) Language processing in frontotemporal dementia: A brief review. *Language and Linguistics Compass* 2:18–35. doi:10.1111/j.1749-818X.2007.00047.x
- Peelle JE, Cooke A, Moore P, Vesely L, Grossman M (2007) Syntactic and thematic components of sentence processing in progressive nonfluent aphasia and nonaphasic frontotemporal dementia. *Journal of Neurolinguistics* 20:482–494. doi:10.1016/j.jneuroling.2007.04.002

- Golomb JD\*, Peelle JE, Wingfield A (2007) Effects of stimulus variability and adult aging on adaptation to time-compressed speech. *Journal of the Acoustical Society of America* 121:1701–1708. doi:10.1121/1.2436635
- Fallon M, Peelle JE, Wingfield A (2006) Spoken sentence processing in young and older adults modulated by task demands: Evidence from self-paced listening. *Journal of Gerontology: Psychological Sciences* 61:P10–P17.
- Wingfield A, McCoy SL, Peelle JE, Tun PA, Cox C (2006) Effects of adult aging and hearing loss on comprehension of rapid speech varying in syntactic complexity. *Journal of the American Academy of Audiology* 17:487–497. doi:10.3766/jaaa.17.7.4
- Peelle JE, Wingfield A (2005) Dissociations in perceptual learning revealed by adult age differences in adaptation to time-compressed speech. *Journal of Experimental Psychology: Human Perception and Performance* 31:1315–1330. doi:10.1037/0096-1523.31.6.1315
- Peelle JE, McMillan C, Moore P, Grossman M, Wingfield A (2004) Dissociable patterns of brain activity during comprehension of rapid and syntactically complex speech: Evidence from fMRI. *Brain and Language* 91:315–325. doi:10.1016/j.bandl.2004.05.007
- Wingfield A, Peelle JE, Grossman M (2003) Speech rate and syntactic complexity as multiplicative factors in speech comprehension by young and older adults. *Aging, Neuropsychology, and Cognition* 10:310–322. doi:10.1076/anec.10.4.310.28974

### Other Publications

- Peelle JE (2016) A manuscript checklist for improving science. *The Winnower* 3:e145877.77781. doi:10.15200/winn.145877.77781
- Peelle JE (2016) Reviewing for open science. *The Winnower* 3:e145877.76807. doi:10.15200/winn.145877.76807
- Peelle JE (2016) Speaker gender balance at Society for the Neurobiology of Language conferences 2009–2015. *The Winnower* 3:e145573.38893. doi:10.15200/winn.145573.38893

### Editorials, Introductions, Commentaries, Lightly-Reviewed Opinion Pieces, etc.

- Reilly J, Peelle JE (2023) Modality-specificity is not a necessary condition for grounded semantic cognition: A commentary on Calzavarini (2023). *Language, Cognition and Neuroscience*. doi:10.1080/23273798.2023.2210234
- Peelle JE, Wingfield A (2022) How the brain makes sense of noisy speech. *Acoustics Today* 18:40–48. doi:10.1121/AT.2022.18.3.40
- Peelle JE (2018) Speech comprehension: Stimulating discussions at a cocktail party. *Current Biology* 28:R68–R70. doi:10.1016/j.cub.2017.12.005

- Peelle JE, Wingfield A (2016) Listening effort in age-related hearing loss. *The Hearing Journal* 69:10, 12. doi:10.1097/01.HJ.0000508368.12042.08
- Peelle JE (2016) Introduction to special issue on age, hearing, and speech comprehension. *Experimental Aging Research* 42:1–3. doi:10.1080/0361073X.2016.1108714
- Wingfield A, Peelle JE (2015) The effects of hearing loss on neural processing and plasticity. *Frontiers in Systems Neuroscience* 9:35. doi:10.3389/fnsys.2015.00035
- Wingfield A, Peelle JE (2012) How does hearing loss affect the brain? *Aging Health* 8:107–109. doi:10.2217/AHE.12.5

### **Books (as editor)**

- Speech Perception* (Springer Handbook of Auditory Research, vol. 74) (2022) (Holt, Peelle, Coffin, Popper, Fay, eds). Springer. <https://link.springer.com/book/10.1007/978-3-030-81542-4>

### **Book Chapters and Sections**

- Holt LL, Peelle JE (2022) The auditory cognitive neuroscience of speech perception in context. In: *Speech Perception* (Springer Handbook of Auditory Research, vol. 74) (Holt, Peelle, Coffin, Popper, Fay, eds), pp. 1–12. Springer. doi:10.1007/978-3-030-81542-4\_1
- Rogers CS, Peelle JE (2022) Interactions between audition and cognition in hearing loss and aging. In: *Speech Perception* (Springer Handbook of Auditory Research, vol. 74) (Holt and Peelle, eds; Popper, Fay, Coffin, series eds), pp. 227–252. Springer. doi:10.1007/978-3-030-81542-4\_9 Preprint: <https://psyarxiv.com/d2bxw>
- Peelle JE (2020) Age-related sensory deficits and their consequences. In: *The Handbook of Cognitive Aging: A Life Course Perspective* (Thomas and Gutchess, eds), pp. 179–199. Cambridge University Press. Preprint: <https://psyarxiv.com/3cptq>
- Peelle JE (2019) The neural basis for auditory and audiovisual speech perception. In: *The Routledge Handbook of Phonetics* (Katz and Assmann, eds), pp. 193–216. New York: Routledge. Preprint: <https://psyarxiv.com/39ej7>
- Peelle JE (2018) Language and aging. In: *The Oxford Handbook of Neurolinguistics* (de Zubicaray and Schiller, eds), pp. 295–316. Oxford: Oxford University Press. Preprint: <https://psyarxiv.com/xp29u>
- Wingfield A, Tun PA, O’Kane G, Peelle JE (2004) Language comprehension in complex environments: Distraction by competing speech in young and older adult listeners. In *Advances in Psychology Research* (Shohov, ed.) 33:3–38. Nova Publishers: Hauppauge, NY..

## Invited Non-conference Talks

### INTERNATIONAL

Rotman Research Institute, Toronto, Canada	2024
Perspectives in Neuroscience Series, University of Western Ontario	2024
University of British Columbia Language Sciences	2021
School of Psychology, University of Birmingham	2021
MRC Cognition and Brain Sciences Unit, Cambridge, UK	2019
New Zealand Institute of Language, Brain & Behaviour	2017
Department of Experimental Psychology, Oxford University	2017
Brain & Mind Doctoral Program, University of Helsinki/Aalto University	2015
Australian Hearing Hub, Macquarie University, Sydney, Australia	2015
Division of Psychology and Language Sciences, University College London	2015
Centre for Neural Circuits and Behaviour, Oxford University, Oxford, UK	2015
MRC Institute for Hearing Research, Nottingham, UK	2013
Max Planck Institute for Human Cognitive and Brain Sciences	2012
Brain and Mind Institute, University of Western Ontario, London, Canada	2011

### NATIONAL

Department of Psychology, Union College	2024
Cognitive Science and SLAC Programs, University of Connecticut	2022
Hearing Sciences Interest Group, Medical University of South Carolina	2022
CSD Research Roundtable, University of Pittsburgh	2021
Science of Learning and the Art of Communication Series, UConn	2021
Core for Advanced MRI, Baylor College of Medicine	2019
Cochlear Center for Hearing and Public Health, Johns Hopkins University	2019
Department of Psychology, Brandeis University	2019
Department of Neurosurgery, University of Iowa	2018
Department of Pharmacology, Southern Illinois University	2017
Dept. of Communication Sciences & Disorders, Northeastern University	2017
Department of Psychological Sciences, University of Missouri	2016
Neuroscience and Cognitive Science Colloquium, University of Maryland	2016
Department of Speech, Language, and Hearing Sciences, Purdue University	2014
Beckman Institute, University of Illinois, Urbana Champaign	2013
Department of Psychology, Washington University in Saint Louis	2012
Dept. of Communicative Sciences & Disorders, Michigan State University	2012
Department of Otolaryngology, Washington University in Saint Louis	2012
Department of Communication Sciences & Disorders, U. of South Carolina	2012
Department of Psychology and CNBC, Carnegie Mellon University	2012

Department of Psychology, University of Missouri–Saint Louis	2011
Department of Communicative Sciences & Disorders, NYU	2011

LOCAL

Language and Cognition (LangCog) talk series, Harvard University	2024
Fedorenko lab, Department of Brain and Cognitive Sciences, MIT	2023
Center for Brain Recovery, Boston University	2023
Center for Cognitive and Brain Health, Northeastern University	2022
Knight Alzheimer’s Disease Research Center, Washington University	2020
Department of Otolaryngology, Washington University	2019
Children’s Hospital/Washington University Audiology Grand Rounds	2019
Cognitive, Computational & Systems Neuroscience Retreat	2017
Department of Psychological and Brain Sciences, Washington University	2016
Department of Otolaryngology, Washington University	2015
Department of Psychology, Washington University	2013
Saint Louis Children’s Hospital/Wash U Audiology Grand Rounds	2013
University of Pennsylvania Center for Cognitive Neuroscience Talk Series	2011
Translational Research Center, University of Pennsylvania	2011
Department of Audiology, University of Pennsylvania	2011
MRC Cognition and Brain Sciences Unit, Cambridge, UK	2010
MRC Cognition and Brain Sciences Unit, Cambridge, UK	2009
University of Pennsylvania Brain and Language Series	2008
International Research Training Group Winterschool	2007
University of Pennsylvania Brain and Language Series	2006

**Conference and Workshop Talks**

INVITED

Domain general resources in language processing. *Murray Grossman Memorial Symposium*, Philadelphia, PA, November 2023.

Cognitive contributions to understanding acoustically challenging speech. *Gordon Research Conference on the Auditory System*, Smithfield, RI, July 2022.

Hearing and cognition. *Hearing Aid Research – Ecological Conditions and Outcome Measures (HEAR-ECO) Workshop*, April 2022.

Four ways of measuring cognitive effort during listening. *Symposium for Cognitive Auditory Neuroscience*, April 2021.

Using optical neuroimaging to understand cognitive effort in listeners with cochlear implants. *Midwinter Meeting of the Association for Research in Otolaryngology*, San Jose, CA, January 2020.

Cognitive contributions to understanding acoustically challenging speech. *Aging and Speech Communication Conference*, Tampa, FL, November 2019.

Measuring and overcoming cognitive challenge during speech comprehension. *Conference on Hearing and Cognition*, Knowles Hearing Center at Northwestern University, Evanston, IL, October 2019.

Neural systems supporting speech perception in listeners with cochlear implants. *Conference on Implantable Auditory Prostheses*, Lake Tahoe, CA, July 2019.

Cognitive contributions to understanding acoustically challenging speech. *IMPRS NeuroCom Summer School in Cognitive Neuroscience*, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, June 2019.

Cognitive contributions to understanding acoustically challenging speech. *Cognitive Hearing Science for Communication*, Linköping, Sweden, June 2019.

How entrained cortical oscillations affect spoken language processing. *CSHL Banbury Course "Genetics and the neurobiology of language"*, Cold Spring Harbor Laboratory, New York, July–August 2018.

The role of entrained cortical oscillations in understanding audiovisual speech. *ARC Centre of Excellence in Cognition and its Disorders–Kanazawa Institute of Technology MEG Workshop*, Macquarie University, Sydney, Australia, December 2017.

Interaction between cognitive and acoustic processing during speech comprehension. *Eleanor M. Saffran Conference on Cognitive Neuroscience and Rehabilitation of Language Disorders*, Philadelphia, PA, September 2017.

Individual differences in neural systems supporting speech comprehension. *World Congress of Audiology*, Vancouver, Canada, September 2016. \* session organizer/chair

Echoes of the acoustic speech signal in spoken language comprehension. *Center for Hearing Research Annual Symposium*, UC Irvine, May 2016.

Aging, hearing acuity, and cascading effects of perceptual effort. *Annual Meeting of the American Auditory Society*, Scottsdale, AZ, March 2016.

Individual differences in auditory and cognitive factors during spoken language comprehension. *Annual Meeting of the Society for the Neurobiology of Language*, Chicago, IL, October 2015.

Hearing loss and the brain: Insights from neuroimaging. *Annual Meeting of the Gerontological Society of America*, Washington, DC, November 2014.



Individual differences in neural responses to diverse speech signals. *Language in Interaction Workshop on Language Evolution and Diversity*, Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, October 2014.

Cognitive consequences of acoustic challenge. *Midwest Auditory Research Conference–Midwest Auditory Neuroscience Symposium*, Saint Louis, MO, July 2014.

Auditory and cognitive effects of reduced speech intelligibility. *Signal and Noise along the Auditory Pathway (SNAP)*, Leipzig, Germany, December 2013.

Age, hearing loss, and the neural systems that support sentence comprehension. *Aging and Speech Communication Conference*, Indiana University, Bloomington, Indiana, October 2013.

What age and hearing loss tell us about acoustic and cognitive factors in speech comprehension. *Central Midwest Tinnitus Symposium*, University of Illinois Urbana Champaign, October 2013.

Neural signatures of effort and intelligibility during speech comprehension. *International Conference on Cognitive Hearing Science for Communication*, Linköping, Sweden, June 2013.

Cortical responses to degraded speech are modulated by linguistic predictions. *International Congress on Acoustics (Joint with Acoustical Society of America and Canadian Acoustical Association)*, Montreal, Canada, June 2013.

#### CONTRIBUTED

Peelle JE. Responses to natural language identified using optical neuroimaging: A step towards understanding cognition in the real world. *Yale/Wu Tsai Institute fNIRS workshop*, New Haven, CT, September 2023.

Peelle JE, Sherafati A, Bajracharya A, Jones MS, Culver JP. Measuring neural responses to audiovisual speech processing during movie viewing using optical neuroimaging. *Midwinter Meeting of the Association for Research in Otolaryngology*, Orlando, FL, February 2023.

Peelle JE. Dorsolateral prefrontal cortex supports spoken word recognition in listeners with cochlear implants: Evidence from high-density diffuse optical tomography. *Annual Meeting of the International Society for Behavioural Neuroscience*, June 2021.

Peelle JE. Cognitive consequences of acoustic challenge during spoken communication. *Society of Biological Psychiatry*, April 2021.

Rogers CS, Jones M, McConkey S, Spehar B, Van Engen KJ, Sommers MS, Peelle JE. Age-related differences in auditory cortex activity during spoken word recognition. *OHBMx*, March 2020. <https://twitter.com/OHBMequinoX/status/1241103520880824323>

Peelle JE, Jones M, Luor A, Zhu Z, Bajracharya A. Comparing approaches for motion mitigation in task-based fMRI. *OHBMx*, March 2020.

<https://twitter.com/OHBMequinoX/status/1241160118223470597>

Peelle JE. Age-related changes in speech perception and/or movement. *Annual Meeting of the International Society for Behavioural Neuroscience*, Anchorage, AL, June 2018.

Peelle JE. Effects of age and hearing loss on neural processing of speech. *Annual Meeting of the International Society for Behavioural Neuroscience*, Kohala Coast, HI, June 2015.

Peelle JE. Cognitive consequences of hearing loss (Symposium: The effects of hearing loss on neural processing, plasticity, and aging). *Annual Meeting of the Society for Neuroscience*, Washington, DC, November 2014. \* symposium organizer/co-chair

Peelle JE. The effect of age and acoustic challenge on memory for narrative speech. *Age, Hearing, and Speech Comprehension: A Symposium in Honor of Art Wingfield*, Waltham, MA, July 2014.

Peelle JE. Does acoustic challenge affect memory for narrative speech? *Annual Meeting of the International Society for Behavioural Neuroscience*, Amsterdam, The Netherlands, June 2014.

Peelle JE. Neural signatures of listening effort during speech comprehension. *Annual Meeting of the International Society for Behavioural Neuroscience*, Montreal, Canada, June 2013.

Peelle JE, Olafsen T, Davis MH, Wingfield A. Perceptual learning in speech comprehension governed by power law dynamics. *Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 2010. \* nanosymposium organizer/chair

Peelle JE, Troiani V, Wingfield A, Grossman M. Making up for lost sound: Hearing acuity modulates neural recruitment for speech comprehension in older adults. *Annual Meeting of the Society for Neuroscience*, Washington, DC, November 2008.

Peelle JE, Reilly J, Anderson C, Moore P, Cross K, Kwok S, Vesely L, Grossman M. Naming in PNFA and SD: Knowledge and processing impairments lead to distinct naming errors. *Annual Meeting of the American Academy of Neurology*, Boston, MA, April 2007.

Peelle JE. Age-related changes in speech comprehension: Effects of rate and syntax. *IGERT Student Research Symposium*, Pittsburgh, PA, June 2003.

### **Poster Presentations (last ~2 years)**

(\* indicates student/trainee author)

McClannahan KS, McConkey S, Levitan J, Rodebaugh T, Peelle JE. The role of psychosocial variables for hearing handicap. *Annual Meeting of the American Speech-Language and Hearing Association*, Boston, MA, November 2023.

- Peelle JE, Sherafati A, Milarachi E\*, Jones MS, Bajracharya A\*, Eggebrecht AT, Hershey T, Culver JP. Identifying responses to auditory and audiovisual speech during movie viewing using high-density diffuse optical tomography. *Annual Meeting of the Society for Neuroscience*, Washington, DC, November 2023.
- Peelle JE, Crusey MR\*, Henry MJ. Top-down attention affects rhythmic auditory entrainment. *Advances and Perspectives in Auditory Neuroscience*, Washington, DC, November 2023.
- Stewart HJ, Cash EK, Hunter LL, Peelle JE, Vannest J, Moore DR. Speech, Sound and Visual brain connectivity in children with everyday listening difficulties. *Annual Meeting of the British Academy of Audiology*, Coventry, England, November 2023.
- Bajracharya A\*, Wilhelm D, Markow Z, Fogarty M, Fehner W, Peelle JE, Hershey T, Culver JP. Precision functional mapping of cortical activity using high-density diffuse optical tomography (HD-DOT). *Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July 2023.
- Peelle JE, Milarachi EN\*, Sherafati A\*, Jones MS, Dwyer N, Bajracharya A\*, Firszt JB, Culver JP. Identifying the neural responses to auditory and audiovisual speech during movie watching using optical neuroimaging. *Conference on Implantable Auditory Protheses*, Lake Tahoe, CA, July 2023.
- Kocins K\*, Van Engen KJ, Brown V\*, McClannahan K, Peelle JE. Impact of clear face masks on audiovisual speech intelligibility and subjective listening effort with normal hearing young adults. *Meeting of the Acoustical Society of America*, Chicago, IL, May 2023.
- Bajracharya A\*, Wilhelm D, Markow Z, Fogarty M, Fehner W, Peelle JE, Hershey T, Culver JP. Precision functional mapping of cortical activity using high-density diffuse optical tomography (HD-DOT). *Optica Biophotonics Conference*, Vancouver, BC, April 2023.
- Crawford JL\*, Brough RE, Eisenstein SA, Peelle JE, Braver TS. Neural mechanisms of cognitive effort-based decision-making: a multimethod approach. *Annual Meeting of the Cognitive Neuroscience Society*, San Francisco, CA, March 2023.
- McClannahan KS, McConkey S\*, Levitan J\*, Rodebaugh T, Peelle JE. Social anxiety and negative affect in subjective hearing health. *Annual Meeting of the American Auditory Society*, Scottsdale, AZ, March 2023.
- Crawford JL\*, Brough RE\*, Eisenstein SA, English T, Peelle JE, Braver TS. Does the cost of cognitive effort differ among younger and older adults? A multimethod approach. *Dallas Aging and Cognition Conference*, Dallas, TX, February 2023.
- Abraham I, Ajmera S, Khan R, Leaver A, Peelle JE, Luong H, Sutton B, Husain F. Harmonizing independently collected MRI datasets for greater statistical power in hearing and brain imaging research. *Midwinter Meeting of the Association for Research in Otolaryngology*, Orlando, FL, February 2023.

- Bajracharya A\*, Sherafati A\*, Culver JP, Peelle JE. Mapping naturalistic listening using high-density diffuse optical tomography. *Annual Meeting of the Society for Near-Infrared Spectroscopy*, Boston, October 2022.
- Auer T, Jones M, Knights E, Peelle JE. Automatic analysis 5.8: A powerful and flexible neuroimaging pipeline in MATLAB. *Annual Meeting of the Organization for Human Brain Mapping*, Glasgow, June 2022.
- Bajracharya A\*, Sherafati A, Culver JP, Peelle JE. Mapping the neural bases of listening effort using high-density diffuse optical tomography (HD-DOT). *Proceedings of the Society of Photo-Optical Instrumentation Engineers (SPIE), Neural Imaging and Sensing 2022*, April 2022.

## Teaching and Advising

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### Courses

G = Graduate course, U = undergraduate course

(\* new course preparation from scratch; †restructured existing course; ‡co-taught)

#### NORTHEASTERN UNIVERSITY

SLPA 1101: Introduction to Communication Sciences and Disorders (U) (34 students)	Spring 2024
SLPA 2400*: The Neuroscience of Language (U) (10 students)	Fall 2023
PSYC 8402‡: Colloquium Course (G) (13 students)	Fall 2023
PSYC 5110*‡: Proseminar in Brain and Cognitive Science (G) (20 students)	Fall 2023
SLPA 1101†: Introduction to Communication Sciences and Disorders (U) (24 students)	Spring 2023

#### WASHINGTON UNIVERSITY IN SAINT LOUIS

Psych 3604: Cognitive Neuroscience (U)	2015–2022
Psych 4450: Functional Neuroimaging Methods (U/G)	2017–2021

#### GUEST LECTURING

Biol 5651: Neural Systems (“Language & Speech”)	2014–2021
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Ling 311: Introduction to Semantics (“Cognitive neuroscience of semantics”)  
2014

### **Supervision of Postdoctoral Fellows**

Chad Rogers 2014–2016  
Yune Sang Lee (with Murray Grossman) 2013–2016

### **Supervision of Graduate Students**

#### PHD STUDENTS

Bridget Carey (Psychology) 2023–  
Hailey Smith (Psychology) 2023–  
Aahana Bajracharya (Wash U Imaging Sciences) 2018–

#### OTOLARYNGOLOGY RESIDENTS (WASHINGTON UNIVERSITY IN ST. LOUIS)

Pawina Jiramongkolchai (with Jay Piccirillo) 2017–2019  
Lauren Tashima Roland (with Jay Piccirillo) 2013–2015

#### AUD STUDENTS CAPSTONE RESEARCH PROJECT (WASHINGTON UNIVERSITY IN ST. LOUIS)

Lauren Jacobs 2021  
Helen Newport 2020  
Amelia Mainardi 2020  
Brienne Noud 2018  
Jennifer Whittaker 2017  
Margaret Koeritzer 2015  
Laura Horowitz 2014

#### T35 AUDIOLOGY SUMMER TRAINEES (WASHINGTON UNIVERSITY IN ST. LOUIS)

Jasmin Martinez 2018  
Jonathan Hirst 2017  
Brienne Noud 2016

PACS AUDIOLOGY SUMMER TRAINEES (WASHINGTON UNIVERSITY IN ST. LOUIS)

Helen Newport 2019

T32 PREDOCTORAL RESEARCH TRAINEES (1 YEAR PLACEMENT)

Emily Miller 2020

Latoya Jeanpierre 2019

**Supervision of Undergraduate Students**

UNDERGRADUATE HONORS STUDENTS

Maria Crusey	Cognitive Neuroscience	2022
Abby Graegin	Cognitive Neuroscience	2021
Cameron Perrin	Cognitive Neuroscience	2021
Olivia Murray	Biology	2020
Ari Zimmer	Cognitive Neuroscience	2020
Tim Goblirsch	Psychology	2019
Hayley Clocksin	Psychology	2018
Rebecca Yang	Biology	2017
Hunter Patterson	Biology	2016
Celia Kaufer	Philosophy-Neuroscience-Psychology	2015
Anna Mai	Linguistics	2015
Kathleen Vogel	Philosophy-Neuroscience-Psychology	2015
Caitlin Ward	Philosophy-Neuroscience-Psychology	2014

ENDURE NEUROSCIENCE PIPELINE SUMMER STUDENTS

Taylor Reid 2018

**Advising Activities**

DOCTORAL DISSERTATION COMMITTEE MEMBER

Violet Brown	Psychological and Brain Sciences	2023
Morgan Fogarty	Imaging Sciences	2023
Zachary Markow	Biomedical Engineering)	2023
Drew McLaughlin	Psychological and Brain Sciences	2022
Jessica Nicosia	Psychological and Brain Sciences	2021
Eric Failes	Psychological and Brain Sciences	2020

Arefeh Sherafati	Physics	2020
Adam Horin	Physical Therapy	2020
Katherine Heisey	Biomedical Engineering	2020
Lindsay Michalski	Psychological and Brain Sciences	2019
Cynthia Flores	Psychological and Brain Sciences	2019
Jihyun Cha	Psychological and Brain Sciences	2019
Andrew Fishell	Neuroscience	2019
Ashley Nielsen	Neuroscience	2019
Elinor Harrison	Physical Therapy	2018
John Morton	Psychological and Brain Sciences	2016
Avanti Dey	Psychological and Brain Sciences	2016
Nicholas Szrama	Biomedical Engineering	2016
Mahlega (Samira) Hassanpour	Physics	2015

#### OUTSIDE DOCTORAL DISSERTATION EXAMINER

Frauke Kraus	University of Lübeck	2024
Sita Carraturo	Washington University in Saint Louis	2024
Sonya Karisma	Western Sydney University	2020

#### MASTERS THESIS COMMITTEE

Emma Van Beveren	Communication Sciences & Disorders	2023
Adel Buff	Communication Sciences & Disorders	2023
Kevin Xie	Computer Science	2020
Lauren Gaunt	Psychological and Brain Sciences	2019
Drew McLaughlin	Psychological and Brain Sciences	2019
Tommy Peng	Biomedical Engineering	2017

#### OUTSIDE MASTERS THESIS EXAMINER

Amanda Fullerton	Macquarie University	2016
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#### PHD QUALIFYING EXAM COMMITTEE MEMBER

Ashlyn McCann	Bioengineering	2023
Dillan Newbold	Neuroscience	2017
Ryan Raut	Neuroscience	2017
Stephanie Schultz	Neuroscience	2017

Olga Neyman	Neuroscience	2016
Rachel Rahn	Neuroscience	2016
Ben Seitzman	Neuroscience	2015
Ashley Nielsen	Neuroscience	2014
Josh Siegel	Neuroscience	2014

#### UNDERGRADUATE STUDENTS

I generally have 6–10 undergraduate students in the lab: <http://peellelab.org/people>

### Other Lecturing and Teaching

NURS 900: MRI methods for cognitive neuroscience University of Pennsylvania		2011
Functional and effective connectivity in fMRI (workshop) Advanced SPM Course, Edinburgh, UK		2010, 2011

## Service and Professional Development

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### Service to the Institution

(\* indicates chair)

#### DEPARTMENT SERVICE

Merit Committee	Communication Sciences & Disorders	2022–
Tenure and Promotion Committee	Communication Sciences & Disorders	2022–
Speech and Hearing PhD Committee	Washington University in Saint Louis	2021–2022

#### SCHOOL SERVICE

Research Committee	School of Clinical & Rehab. Sciences	2022–2023
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#### COLLEGE SERVICE

Faculty Search Committee*	Bouvé College of Health Sciences	2023–2024
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## UNIVERSITY SERVICE

Space Committee*	Center for Cognitive and Brain Health	2023–
Faculty Search Committee	Center for Cognitive and Brain Health	2022–2023

## OTHER INSTITUTIONAL SERVICE

Boston Imaging Interest Group organizer <a href="http://peellelab.org/iig/">http://peellelab.org/iig/</a>		2024–
Department liaison to the Institute of Clinical and Translational Sciences		2017–2020
Washington University in Saint Louis Imaging Interest Group organizer		2013–2021
MRC CBU Scientific Computing Management committee		2009–2010
MRC CBU departmental colloquia (Chaucer club) organizing committee		2009–2010

## Service to the Profession/Discipline

### LEADERSHIP AND COMMITTEE POSITIONS

Chair, Society for the Neurobiology of Language†		2023–2025
Scientific Committee, Fondation pour l’Audition		2017–2023
Accessibility/Diversity Comm., Society for the Neurobiology of Language		2020–2022
Meeting liaison, Society for the Neurobiology of Language†		2015–2017

†Board member terms for the Society for the Neurobiology of Language are three years: position-elect, position, and past-position.

### CONFERENCE AND WORKSHOP ORGANIZING

Program committee, Society for the Neurobiology of Language		2024
Organizer, Advancing Methods in Pupillometry <a href="http://amp2020.live">http://amp2020.live</a>		2020
Program committee member, Sensory impairment & cognitive decline U13		2017
Program committee chair, Society for the Neurobiology of Language		2016
Age, hearing, and speech comprehension (in honor of Art Wingfield)		2014

<http://www.artwingfieldfest.com>

### INVITED COMMITTEES AND ADVISORY PANELS

Cochlear Auditory Brainstem Implant think tank		2016
NSF workshop: The role of speech science in developing robust processing applications		2015

MENTORSHIP OF EARLY CAREER STAGE INVESTIGATORS

Northeastern Junior Faculty Grantwriting Group	2023–
Northeastern ADVANCE Peer-mentored CSD Grantwriting Group	2024–2025
NIH K01 Research career development award (faculty mentor) Kate McClannahan, AuD, PhD, Washington University in Saint Louis	2019–2023

EDITORIAL SERVICE

<i>eLife</i>	Action Editor	2019–
<i>Neurobiology of Language</i>	Action Editor	2019–
<i>Language, Cognition and Neuroscience</i>	Action Editor	2016–2020
<i>NeuroImage</i>	Action Editor	2016–2019
<i>Frontiers in Brain Imaging Methods</i>	Editorial Board	2012–2016
<i>Experimental Aging Research</i>	Guest Editor	2015
<i>Frontiers in Systems Neuroscience</i>	Guest Editor	2013

REVIEWING: JOURNALS

<i>Aging, Neuropsychology and Cognition</i>	<i>Frontiers in Human Neuroscience</i>
<i>American Journal of Audiology</i>	<i>Frontiers in Neurology</i>
<i>American Journal of Neuroradiology</i>	<i>Frontiers in Psychology</i>
<i>Aphasiology</i>	<i>Hearing Research</i>
<i>Attention, Perception, &amp; Psychophysics</i>	<i>Human Brain Mapping</i>
<i>Auditory Perception and Cognition</i>	<i>JAMA Neurology</i>
<i>Behavior Research Methods</i>	<i>JAMA Otolaryngology</i>
<i>Brain and Cognition</i>	<i>Journal of the Acoustical Society of America</i>
<i>Brain and Language</i>	<i>JARO</i>
<i>Brain Research</i>	<i>Journal of Clinical and Exp. Neuropsychology</i>
<i>Canadian Journal of Experimental Psychology</i>	<i>Journal of Cognitive Neuroscience</i>
<i>Cerebral Cortex</i>	<i>Journal of Memory and Language</i>
<i>Cognition</i>	<i>Journal of Neurolinguistics</i>
<i>Cognitive and Behavioral Neurology</i>	<i>Journal of Neurophysiology</i>
<i>Cortex</i>	<i>Journal of Neuroscience</i>
<i>Current Biology</i>	<i>Language, Cognition and Neuroscience</i>
<i>Ear and Hearing</i>	<i>Language and Cognition</i>
<i>eLife</i>	<i>Nature</i>
<i>Frontiers in Aging Neuroscience</i>	<i>Nature Communications</i>

<i>Neurobiology of Aging</i>	<i>PLOS ONE</i>
<i>Neurobiology of Language</i>	<i>PNAS</i>
<i>NeuroImage</i>	<i>Psychological Review</i>
<i>Neurophotonics</i>	<i>Psychological Science</i>
<i>Neuropsychiatric Disease and Treatment</i>	<i>Psychonomic Bulletin and Review</i>
<i>Neuropsychologia</i>	<i>Psychology and Aging</i>
<i>Neuropsychology</i>	<i>Quarterly Journal of Experimental Psychology</i>
<i>Neuroscience</i>	<i>Science</i>
<i>PeerJ</i>	<i>Trends in Cognitive Sciences</i>
<i>Perception</i>	<i>Trends in Hearing</i>
<i>PLOS Biology</i>	

REVIEWING: RESEARCH GRANTS

NIH Hearing and Balance Fellowship Review (SEP- ZDC1 SRB-K 13L)	2024
NIH Hearing and Balance Application Review (ZDC1 SRB-Y)	2023
NSF Cognitive Neuroscience (reviewer)	2023
NIH Age related disease mechanism (ZAG1 ZIJ-P)	2023
NSF Integrative Strategies in Neural and Cognitive Systems (panel)	2023
Canadian Institutes of Health Research	2022
NSF Perception, Action, and Cognition (reviewer)	2022
NIH Hearing loss and Alzheimer's (ZAG1 ZIJ-U)	2022
NIH Hearing loss and aging (ZAG1 ZIJ-U)	2022
NIH Loan Repayment Program Review (ZDC1 SRB-Y)	2022
NIH Hearing Loss and Aging (ZAG1 ZIJ-U)	2021
NIH NIDCD Clinical Research Center Review (ZDC1 SRB-X)	2021
NIH Loan Repayment Program Review (ZDC1 SRB-Y)	2021
NIH Member Conflict: Perceptual, Visual, Motor, and Cognitive Processes	2021
Leverhulme Trust	2021
UK National Institute for Health Research	2020
NIH Loan Repayment Program Review (ZDC1 SRB-R)	2020
NIH Auditory System (ZAG1 ZIJ-P)	2020
NIH NIDCD Loan Repayment Review (ZDC1 SRB-R)	2019
NIH Music and Brain Review Meeting (ZNS1 SRB-E)	2019
NIH Member Conflict: Mechanisms of Memory and Sound Processing	2019
NIH Language and Communication Study Section (LCOM)	2019
NIH Sensory, Perceptual, and Cognitive Processes Study Section (SPC)	2018
NIH Member Conflict: Learning, Memory and Cognition (ZRG1 IFCN-Y)	2018
NIH LRP Review (ZDC1 SRB-R)	2018
NIH PAR Panel: Health Disparities in and Caregiving for Alzheimer's	2018

NIH Member Conflict: Language, Social Cognition and Psychopathology	2017
NIH Sensory, Perceptual, and Cognitive Processes Study Section (SPC)	2017
NSF (reviewer)	2017
Wellcome Trust Sir Henry Wellcome Fellowship	2017
Action on Hearing Loss	2017
Translational Research Initiative for Hearing	2017
NSF (reviewer)	2017
NIH Cortical Plasticity in auditory Aging (ZAG1 ZIJ-G)	2017
NIH The Role of Neuroplasticity in Auditory Aging (ZAG1 ZIJ-G)	2016
Fondation pour l'Audition	2016
French National Research Agency (Agence Nationale de la Recherche)	2016
Israel Science Foundation	2016
U.S-Israel Binational Science Foundation	2016
Swiss National Science Foundation	2015
Wellcome Trust Sir Henry Dale Fellowship	2015
NSF Perception, Action, and Cognition (reviewer)	2014
Israel Science Foundation	2014
India Alliance (Wellcome Trust partnership)	2014
NSF Perception, Action, and Cognition (reviewer)	2013
Swiss National Science Foundation	2013
NIH Member Conflicts: Language and Communication (ZRG1 BBBP-J)	2013
NSF Perception, Action, and Cognition (reviewer)	2012
Netherlands Organisation for Scientific Research	2012

#### OTHER PROFESSIONAL ACTIVITIES

Contributor to <i>aa</i> neuroimaging package <a href="http://www.automaticanalysis.org">http://www.automaticanalysis.org</a>	2009–2020
Conference abstract reviewing: Society for the Neurobiology of Language	2009–2023
Conference paper reviewing: Cognitive Science Society	2017
Conference abstract reviewing: Organization for Human Brain Mapping	2009–2012

#### **Service to the Community/Public**

##### PUBLIC ENGAGEMENT

University of Pennsylvania Neuroscience Boot Camp discussion leader	2011, 2012
MRC CBU hands-on exhibit at Royal Society summer science festival	2010
Brandeis Adult Learning Institute lecture	2003
Brandeis University Memory and Cognition Lab annual open house	2001–2005

## PODCASTS

The Juice and the Squeeze <http://juiceandsqueeze.net>

2019-

The Brain Made Plain <http://thebrainmadeplain.net>

2021-

## **Professional Development**

### PROFESSIONAL MEMBERSHIPS

Association for Research in Otolaryngology

International Society for Behavioural Neuroscience

Psychonomic Society

Society for Functional Near Infrared Spectroscopy

Society for the Neurobiology of Language

Society for Neuroscience