

Sahil Luthra

Department of Psychology, Carnegie Mellon University
5000 Forbes Avenue, Pittsburgh, PA 15213
sahilluthra@cmu.edu | sahilluthra.net

Education	Ph.D., Psychological Sciences (Language and Cognition) 2021 University of Connecticut; Advisors: Jim Magnuson, Emily Myers <i>Dissertation:</i> Neural mechanisms underlying talker-specific influences on speech perception
	M.S., Psychological Sciences (Language and Cognition) 2019 University of Connecticut; Advisors: Jim Magnuson, Emily Myers <i>Thesis:</i> The influence of sentence context on phonetic recalibration
	Graduate Certificate, Neurobiology of Language 2019 University of Connecticut
	B.S. with Honors, Cognitive Neuroscience 2014 Brown University; Advisor: Sheila Blumstein <i>Thesis:</i> Speaker information in spoken word recognition: An investigation using false memories
Academic Employment	Postdoctoral Researcher 2021-Present Carnegie Mellon University; Supervisors: Lori Holt, Barbara Shinn-Cunningham, Fred Dick (University of London Birkbeck), Adam Tierney (University of London Birkbeck)
	Research Assistant 2014-2016 Brown University; Supervisors: Emily Myers, Sheila Blumstein
	Research Assistant 2013 Boston University; Supervisor: Swathi Kiran
Honors and Awards	Dissertation Prize, Society for Neurobiology of Language 2021
	Diversity and Inclusion Award, Cognitive Science Society 2021
	Isabelle Y. Liberman Award, University of Connecticut 2020
	NSF Graduate Research Fellowship 2018-2021
	NSF Research Traineeship (Science of Learning & Art of Communication) 2018-2021
	Jorgensen Scholarship, University of Connecticut 2018-2021
	NSF IGERT Fellowship (Language Plasticity) 2016-2018
	Premium for Excellence in Cognitive Neuroscience, Brown University 2014
	Royce Fellowship, Brown University 2012
	August P. Reccord Scholarship, Brown University 2010-2014
Eagle Scout Scholarship, Frank Livermore Trust 2010-2014	
National Merit Scholarship 2010	

**Peer-
Reviewed
Publications
(Published)**

Saltzman, D., **Luthra, S.**, Myers, E. B., & Magnuson, J. S. Attention, task demands, and multi-talker processing costs in speech perception. *Journal of Experimental Psychology: Human Perception and Performance*. In press.

Luthra, S., Saltzman, D., Myers, E. B., & Magnuson, J. S. (2021). Listener expectations and the perceptual accommodation of talker variability: A pre-registered replication. *Attention, Perception & Psychophysics*, *83*(6), 2367-2376.

Luthra, S., Li, M. Y. C., You, H., Brodbeck, C., & Magnuson, J. S. (2021). Does signal reduction imply predictive coding in models of spoken word recognition? *Psychonomic Bulletin & Review*, *28*(4), 1381-1389.

Luthra, S., Peraza-Santiago, G., Beeson, K., Saltzman, D., Crinnion, A. M, & Magnuson, J. S. (2021). Robust lexically-mediated compensation for coarticulation: Christmash time is here again. *Cognitive Science*, *45*(4), 1-20.

Luthra, S., Mechtenberg, H., & Myers, E. B. (2021). Perceptual learning of multiple talkers requires additional exposure. *Attention, Perception, & Psychophysics*, *83*(5), 2217-2228.

Luthra, S. (2021). The role of the right hemisphere in processing phonetic variability between talkers. *Neurobiology of Language*, *2*(1), 138-151.

Luthra, S., Magnuson, J. S., & Myers, E. B. (2021). Boosting lexical support does not enhance lexically guided perceptual learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *47*(4), 685-704.

Luthra, S., You, H., Rueckl, J. G., & Magnuson, J. S. (2020). Friends in low-entropy places: Orthographic neighbor effects on visual word identification differ across letter positions. *Cognitive Science*, *44*(12), 1-31.

Luthra, S., Correia, J. M., Kleinschmidt, D. F., Mesite, L. & Myers, E. B. Lexical information guides retuning of neural patterns in perceptual learning of speech. (2020). *Journal of Cognitive Neuroscience*, *32*(10), 2001-2012.

Magnuson, J. S., You, H., **Luthra, S.**, Li, M. Y. C., Nam, H., Escabí, M., Brown, K., Allopenna, P. D., Theodore, R. M., Monto, N., & Rueckl, J. (2020). EARSHOT: A minimal neural network model of incremental human speech recognition. *Cognitive Science*, *44*(4), 1-17.

Luthra, S., Fuhrmeister, P., Molfese, P. J., Guediche, S., Blumstein, S. E., & Myers, E. B. (2019). Brain-behavior relationships in incidental learning of non-native phonetic categories. *Brain & Language*, *198*, 1-12.

Luthra, S., Guediche, S., Blumstein, S. E., & Myers, E. B. (2019). Neural substrates of subphonemic variation and lexical competition in spoken word recognition. *Language, Cognition & Neuroscience*, 34(2), 151-169.

Luthra, S., Fox, N. P., & Blumstein, S. E. (2018). Speaker information affects false recognition of unstudied lexical-semantic associates. *Attention, Perception & Psychophysics*, 80(4), 894-912.

Magnuson, J. S., Mirman, D., **Luthra, S.**, Strauss, T., & Harris, H. (2018). Interaction in spoken word recognition models: Feedback helps. *Frontiers in Psychology*, 9, 1-18.

Theodore, R. M., Blumstein, S. E., & **Luthra, S.** (2015). Attention modulates specificity effects in spoken word recognition: Challenges to the time-course hypothesis. *Attention, Perception & Psychophysics*, 77(5), 1674-1684.

**Peer-
Reviewed
Publications
(In Progress)**

Heffner, C. C., Fuhrmeister, P., **Luthra, S.**, Mechtenberg, H., Saltzman, D., & Myers, E. B. Reliability for perceptual flexibility in speech: Identification, learning, and adaptation. Under review.

Magnuson, J. S., Grubb, S., Crinnion, A. M., **Luthra, S.**, & Gaston, P. Contra assertions, feedback improves word recognition. Under review.

**Conference
Presentations**

Luthra, S. A right hemisphere role in talker-specific phonetic processing. Dissertation award talk presented at Society for Neurobiology of Language, Virtual Conference, October 2021.

Luthra, S., Magnuson, J. S., & Myers, E. B. Right posterior temporal cortex supports integration of phonetic and talker information. Poster presented at Society for Neurobiology of Language, Virtual Conference, October 2021.

Luthra, S., Mechtenberg, H., Giorio, C., Theodore, R. M., Magnuson, J. S., & Myers, E. B. Using TMS to evaluate a causal role for right posterior temporal cortex in talker-specific phonetic processing. Poster presented at Society for Neurobiology of Language, Virtual Conference, October 2021.

Luthra, S., Rueckl, J. S., & Magnuson, J. S. A computational investigation of the transformation from talker-specific detail to talker-invariant lexical representations. Poster presented at Society for Neurobiology of Language, Virtual Conference, October 2021.

Brodbeck, C., **Luthra, S.**, Gaston, P., & Magnuson, J. S. Discovering computational principles in models and brains. Poster presented at Cognitive Science Society, Vienna, Austria (In-Person/Virtual Hybrid), July 2021.

Luthra, S., Peraza-Santiago, G., Saltzman, D., Crinnion, A. M., & Magnuson, J. S. Lexically-mediated compensation for coarticulation in older adults. Talk presented at Cognitive Science Society, Vienna, Austria (In-Person/Virtual Hybrid), July 2021.

Luthra, S., Mechtenberg, H., & Myers, E. B. Perceptual learning of multiple talkers requires additional exposure. Poster presented at Psychonomic Society, Virtual Conference, November 2020.

Peraza-Santiago, G., Beeson, K., **Luthra, S.**, Saltzman, D., Crinnion, A. M., & Magnuson, J. S. Robust lexically-mediated compensation for coarticulation (LCfC) supports feedback in spoken word recognition. Poster presented at Psychonomic Society, Virtual Conference, November 2020.

Grubb, S., Dalal, P., Daniel, J., Peraza-Santiago, G., **Luthra, S.**, Saltzman, D., Xie, B., Crinnion, A.M., & Magnuson, J. S. Talkers, time, tasks, and similarity in spoken word recognition. Poster presented at Psychonomic Society, Virtual Conference, November 2020.

Saltzman, D., **Luthra, S.**, Myers, E. B., & Magnuson, J. S. Multi-talker processing costs in monitoring reflect task demands, not normalization. Poster presented at Psychonomic Society, Virtual Conference, November 2020.

Luthra, S., Steiner, R. J., Magnuson, J. S., & Myers, E. B. The influence of sentence context on lexically guided perceptual learning. Poster presented at Psychonomic Society, Montréal, QC, November 2019.

Luthra, S., Correia, J. M., Kleinschmidt, D. F., Mesite, L. & Myers, E. B. Lexical information guides retuning of neural patterns in perceptual learning of speech. Poster presented at Society for Neurobiology of Language, Helsinki, Finland, August 2019.

Magnuson, J., S., You, H. Rueckl, J., Allopenna, P. D., Li, M. Y. C., **Luthra, S.**, Steiner, R. J., Escabí, M., Brown, K., Theodore, R. M., & Monto, N. Poster presented at EARSHOT: Emulating Auditory Recognition of Speech by Humans Over Time. Society for Neurobiology of Language, Helsinki, Finland, August 2019.

Magnuson, J., S., You, H. Rueckl, J., Allopenna, P. D., Li, M. Y. C., **Luthra, S.**, Steiner, R. J., Escabí, M., Brown, K., Theodore, R. M., & Monto, N. EARSHOT: A minimal model of human speech recognition (HSR) that operates on real speech. Poster presented at Cognitive Science Society, Montréal, QC, July 2019.

Magnuson, J., S., Li, M. Y. C., **Luthra, S.**, You, H., & Steiner, R. J. Does predictive processing imply predictive coding in models of spoken word recognition? Talk presented at Cognitive Science Society, Montréal, QC, July 2019.

Luthra, S., You, H., & Magnuson, J. S. Orthographic neighbor effects on visual word identification differ across letter positions. Poster presented at Psychonomic Society, New Orleans, LA, November 2018.

Li, M. Y. C., You, H., **Luthra, S.**, Steiner, R. J., & Magnuson, J. S. Predictive processing in computational models of spoken word recognition. Poster presented at Psychonomic Society. New Orleans, LA, November 2018.

Luthra, S., & Magnuson, J. S. Friends in low-entropy places: Letter position influences orthographic neighbor effects in visual word identification. Poster presented at Cognitive Science Society, Madison, WI, July 2018.

Magnuson, J. S., Li, M. Y. C., You, H., **Luthra, S.**, & Steiner, R. J. Predictive processing in computational models of spoken word recognition. Talk presented at Workshop on Predictive Processing. Donostia-San Sebastián, Spain, June 2018.

Luthra, S., Fuhrmeister, P., Molfese, P. J., Guediche, S., Blumstein, S. E., & Myers, E. B. Brain-behavior relationships in implicit learning of non-native phonetic categories. Poster presented at Society for Neurobiology of Language. Baltimore, MD, November 2017.

Luthra, S., & Magnuson, J. S. Cumulative response probabilities: Estimating time course of lexical activation from single-point response times. Poster presented at Cognitive Science Society, London, UK, July 2017.

Luthra, S., Fuhrmeister, P., Guediche, S., Blumstein, S. E., & Myers, E. B. Neural correlates of task-irrelevant perceptual learning of non-native speech sounds. Poster presented at Psychonomic Society. Boston, MA, November 2016.

Luthra, S., Guediche, S., Blumstein, S. E., & Myers, E. B. Effects of phonetic category structure on brain activity during word recognition. Poster presented at Society for Neurobiology of Language. London, UK, August 2016.

Luthra, S., Fox, N. P., & Blumstein, S. E. Speaker information affects false recognition of unstudied lexical-semantic associates. Poster presented at Society for Neurobiology of Language. Chicago, IL, October 2015.

Myers, E. B., Theodore, R. M., & **Luthra, S.** Neural encoding of talker-specific phonetic variation. Poster presented at Society for Neurobiology of Language. Chicago, IL, October 2015.

**Teaching
Experience**

Instructor of Record
PSYC 3500: Psychology of Language

Fall 2019

	Guest Lectures	
	PSYC 2501: Cognitive Psychology	October 2017
	SLHS 3247: Introduction to Phonetic Principles	December 2016
	Community Presentations	
	The Science of Language (Haynes Elementary School, MA)	May 2020
	Cognitive Neuroscience (Central High School, RI)	February 2016
	Workshop Presentations	
	Using fMRI for Cognitive Research (UConn “J-Term” Primers)	January 2021
	Data Visualization (UConn “J-Term” Primers)	January 2020
	Advanced Neuroimaging Techniques (UConn “J-Term” Primers)	January 2019
Invited Talks	Open Lab Meeting on Talker Variability, University of Rochester	July 2021
	Spoken Language Interest Group, Basque Centre for Cognition, Brain, & Language	July 2018
Outreach	Editor-in-Chief, <i>Brain, Cognition, & Language Digest</i> , Connecticut Institute for the Brain and Cognitive Sciences	2018-2019
	Team Member, Language Science for Everyone, AAAS Family Science Days	February 2017
Service	“J-Term” Committee for Neurobiology of Language (NBL) & Science of Learning & Art of Communication (SLAC) programs	2016-present
	Academic Committee for NBL/SLAC programs	2016-Present
	Events Committee for NBL/SLAC programs	2016-2018
	Student Organizer, Language & Cognition Brown Bag	2017-2019
	Student Organizer, NBL “Talk Shop”	2016-2017
Ad Hoc Reviewer	<i>Attention, Perception, & Psychophysics; JASA Express Letters; Journal of Cognitive Psychology; Journal of Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory and Cognition; Journal of Memory and Language; Journal of Neuroscience; NeuroImage; PLOS ONE; Psychonomic Bulletin & Review; Quarterly Journal of Experimental Psychology</i>	
Professional Affiliations	Cognitive Science Society, Psychonomic Society, Society for Neurobiology of Language, National Public Radio “SciComms”	
Professional Skills	MRI/DTI (AFNI/SUMA, FreeSurfer, Tracula, TORTOISE, SPM/Matlab), TMS (MagVenture), Eyetracking (EyeLink), Acoustic analysis (Praat, STRAIGHT), Experiment programming (Gorilla, E-Prime, PsychoPy, OpenSesame), Statistics (R, SPSS, Python)	
Languages	English (native), Spanish (professional fluency), Hindi (intermediate skill)	