

Curriculum Vitae

Zilong Xie

October 13, 2023

General Information

University address: Communication Science and Disorders
College of Communication & Information
201 W. Bloxham, Warren Building
Florida State University
Tallahassee, FL 32306-1200

E-mail address: zx22c@fsu.edu

Professional Preparation

2018 Ph.D., The University of Texas at Austin, Austin, TX. Major: Communication Sciences and Disorders. Supervisor: Bharath Chandrasekaran.

Zilong Xie. (2018). *Taking attention away from the auditory modality: investigations of the effect on speech processing using machine learning*. Unpublished doctoral dissertation, The University of Texas at Austin, Austin, TX. Retrieved from <http://hdl.handle.net/2152/65752>.

2013 M.S., Peking University, Beijing. Major: Psychology. Supervisor: Liang Li.

2009 B.S., Southwest University, Chongqing. Major: Psychology.

Professional Experience

2022–present Faculty Affiliate, Institute for Successful Longevity, Florida State University.

2022–present Assistant Professor, Communication Science and Disorders, Florida State University.

2020–2022 Assistant Professor, Hearing and Speech, University of Kansas Medical Center.

2018–2020 Postdoctoral Associate, Hearing and Speech Sciences, University of Maryland, College Park.

2018 Social Science/Humanities Research Associate, Communication Sciences and Disorders, The University of Texas at Austin.

Language Proficiency

Chinese - native in speaking, reading, and writing.

Areas of Expertise

Communication Science and Disorders.
Health and Aging.
Psychology - Cognitive.
Psychology - Neuroscience.

Honors, Awards, and Prizes

Provost's Faculty Travel Grant, Florida State University (2023). (\$1,000).
For 2023 ARO conference at Orlando, FL.

Current Membership in Professional Organizations

American Auditory Society
Association for Research in Otolaryngology

Teaching

Courses Taught

Applications of Research in Communication Sciences and Disorders (SPA3801)
Introduction to Clinical Audiology (SPA4302)
Introduction to Clinical Audiology Laboratory (SPA4302L)
Neurological Bases of Communication (SPA4104)
Auditory Evoked Potentials (AUD 851)
Anatomy and Physiology of the Hearing and Vestibular Mechanisms (AUD 829)
Instrumentation in Hearing and Speech Sciences (HESP 600)

Supervision of Student Research Not Related to Thesis or Dissertation

Chatani, A. (2023–present).

Fletcher, L. (2023–present).

Frerking, G. (2023–present).

Ricelli, A. (2023–present).

Hannum, K. (Oct 2022–present).

Rickett, O. (Oct 2022–present).

Matula, A. (2022–present).

Toler, A. (2022–present).

Engelman, G. (Sep 2022–May 2023).

Hoffer, G. (Sep 2022–May 2023).

Song, V. (2021–23).

Audiology Capstone project at the University of Kansas Medical Center.

Research and Original Creative Work

Publications

Refereed Journal Articles

Xie, Z., Brodbeck, C., & Chandrasekaran, B. (2023). Cortical tracking of continuous speech under bimodal divided attention. *Neurobiology of Language*, 4(2), 318–343. doi:https://doi.org/10.1162/nol_a_00100

Xie, Z., Anderson, S., & Goupell, M. J. (2022). Stimulus context affects the phonemic categorization of temporally based word contrasts in adult cochlear-implant users. *The Journal of the Acoustical Society of America*, 151(3), 2149-2158. Retrieved from <https://doi.org/10.1121%2F10.0009838> doi:10.1121/10.0009838

Xie, Z., Stakhovskaya, O., Goupell, M. J., & Anderson, S. (2021). Aging Effects on Cortical Responses to Tones and Speech in Adult Cochlear-Implant Users. *Journal of the Association for Research in Otolaryngology*. Retrieved from <https://doi.org/10.1007%2Fs10162-021-00804-4> doi:10.1007/s10162-021-00804-4

- Johnson, K. C., Xie, Z., Shader, M. J., Mayo, P. G., & Goupell, M. J. (2021). Effect of Chronological Age on Pulse Rate Discrimination in Adult Cochlear-Implant Users. *Trends in Hearing*. Retrieved from <https://doi.org/10.1177/23312165211007367> doi:10.1177/23312165211007367
- Xie, Z., Shader, M. J., Gordon-Salant, S., Anderson, S., & Goupell, M. J. (2020). Letter to the Editor: Possible Sex Effects on the Processing of Temporal Cues in Word Segments in Adult Cochlear-Implant Users. *Trends in Hearing*. Retrieved from <https://doi.org/10.1177/2331216520946675> doi:10.1177/2331216520946675
- Xie, Z., Zinszer, B. D., Riggs, M., Beevers, C. G., & Chandrasekaran, B. (2019). Impact of depression on speech perception in noise. *PLOS ONE*. Retrieved from <http://dx.doi.org/10.1371/journal.pone.0220928> doi:10.1371/journal.pone.0220928
- Llanos, F., Xie, Z., & Chandrasekaran, B. (2019). Biometric identification of listener identity from frequency following responses to speech. *Journal of neural engineering*. Retrieved from <https://doi.org/10.1088/1741-2552/ab1e01> doi:10.1088/1741-2552/ab1e01
- Xie, Z., Reetzke, R., & Chandrasekaran, B. (2019). Machine Learning Approaches to Analyze Speech-Evoked Neurophysiological Responses. *Journal of speech, language, and hearing research : JSLHR*. Retrieved from <https://europepmc.org/articles/PMC6802895> doi:10.1044/2018_jslhr-s-astm-18-0244
- Xie, Z., Gaskins, C. R., Shader, M. J., Gordon-Salant, S., Anderson, S., & Goupell, M. J. (2019). Age-Related Temporal Processing Deficits in Word Segments in Adult Cochlear-Implant Users. *Trends in Hearing*. Retrieved from <http://dx.doi.org/10.1177/2331216519886688> doi:10.1177/2331216519886688
- Xie, Z., Reetzke, R., & Chandrasekaran, B. (2018). Taking Attention Away from the Auditory Modality: Context-dependent Effects on Early Sensory Encoding of Speech. *Neuroscience*. Retrieved from <http://dx.doi.org/10.1016/j.neuroscience.2018.05.023> doi:10.1016/j.neuroscience.2018.05.023
- Reetzke, R., Xie, Z., Llanos, F., & Chandrasekaran, B. (2018). Tracing the Trajectory of Sensory Plasticity across Different Stages of Speech Learning in Adulthood. *Current Biology*. Retrieved from <http://dx.doi.org/10.1016/j.cub.2018.03.026> doi:10.1016/j.cub.2018.03.026
- Llanos, F., Xie, Z., & Chandrasekaran, B. (2017). Hidden Markov modeling of frequency-following responses to Mandarin lexical tones. *Journal of Neuroscience Methods*. Retrieved from <http://dx.doi.org/10.1016/j.jneumeth.2017.08.010> doi:10.1016/j.jneumeth.2017.08.010
- Lam, B. P., Xie, Z., Tessmer, R., & Chandrasekaran, B. (2017). The Downside of Greater Lexical Influences: Selectively Poorer Speech Perception in Noise. *Journal of Speech,*

- Language, and Hearing Research*. Retrieved from http://dx.doi.org/10.1044/2017_jslhr-h-16-0133 doi:10.1044/2017_jslhr-h-16-0133
- Yi, H. G., Xie, Z., Reetzke, R., Dimakis, A. G., & Chandrasekaran, B. (2017). Vowel decoding from single-trial speech-evoked electrophysiological responses: A feature-based machine learning approach. *Brain and Behavior*. Retrieved from <http://dx.doi.org/10.1002/brb3.665> doi:10.1002/brb3.665
- Van Engen, K. J., Xie, Z., & Chandrasekaran, B. (2017). Audiovisual sentence recognition not predicted by susceptibility to the McGurk effect. *Attention, Perception, & Psychophysics*. Retrieved from <http://dx.doi.org/10.3758/s13414-016-1238-9> doi:10.3758/s13414-016-1238-9
- Xie, Z., Reetzke, R., & Chandrasekaran, B. (2017). Stability and plasticity in neural encoding of linguistically relevant pitch patterns. *Journal of neurophysiology*. Retrieved from <https://europepmc.org/articles/PMC5357720> doi:10.1152/jn.00445.2016
- Reetzke, R., Lam, B. P., Xie, Z., Sheng, L., & Chandrasekaran, B. (2016). Effect of Simultaneous Bilingualism on Speech Intelligibility across Different Masker Types, Modalities, and Signal-to-Noise Ratios in School-Age Children. *PLOS ONE*. Retrieved from <http://dx.doi.org/10.1371/journal.pone.0168048> doi:10.1371/journal.pone.0168048
- Chandrasekaran, B., Van Engen, K., Xie, Z., Beevers, C. G., & Maddox, W. T. (2015). Influence of depressive symptoms on speech perception in adverse listening conditions. *Cognition and Emotion*. Retrieved from <http://dx.doi.org/10.1080/02699931.2014.944106> doi:10.1080/02699931.2014.944106
- Kong, L., Xie, Z., Lu, L., Qu, T., Wu, X., Yan, J., & Li, L. (2015). Similar Impacts of the Interaural Delay and Interaural Correlation on Binaural Gap Detection. *PLOS ONE*. Retrieved from <http://dx.doi.org/10.1371/journal.pone.0126342> doi:10.1371/journal.pone.0126342
- Xie, Z., Maddox, W. T., McGeary, J. E., & Chandrasekaran, B. (2015). The C957T polymorphism in the dopamine receptor D2 gene modulates domain-general category learning. *Journal of Neurophysiology*. Retrieved from <http://dx.doi.org/10.1152/jn.01005.2014> doi:10.1152/jn.01005.2014
- Xie, Z., Maddox, W. T., Knopik, V. S., McGeary, J. E., & Chandrasekaran, B. (2015). Dopamine receptor D4 (DRD4) gene modulates the influence of informational masking on speech recognition. *Neuropsychologia*. Retrieved from <http://dx.doi.org/10.1016/j.neuropsychologia.2014.12.013> doi:10.1016/j.neuropsychologia.2014.12.013

- Xie, Z., Yi, Han-Gyol, & Chandrasekaran, B. (2014). Nonnative Audiovisual Speech Perception in Noise: Dissociable Effects of the Speaker and Listener. *PLoS ONE*. Retrieved from <http://dx.doi.org/10.1371/journal.pone.0114439> doi:10.1371/journal.pone.0114439
- Kong, L., Xie, Z., Lu, L., & Li, L. (2012). Sensitivity to a break in interaural correlation is co-modulated by intensity level and interaural delay. *The Journal of the Acoustical Society of America*. Retrieved from <http://dx.doi.org/10.1121/1.4734241> doi:10.1121/1.4734241

Nonrefereed Book Chapters

- Lau, J. C. Y., Xie, Z., Chandrasekaran, B., & Wong, P. C. M. (2020). Cortical and subcortical processing of linguistic pitch patterns. In Carlos Gussenhoven, & Aojun Chen (Eds.), *The Oxford Handbook of Language Prosody*. Oxford University Press.
- Reetzke, R., Xie, Z., & Chandrasekaran, B. (2017). Neurobiology of literacy and its disorders. In Nina Kraus, Samira Anderson, & Travis White-Schwoch (Eds.), *The Frequency-following Response: A Window into Human Communication*. Springer.
- Chandrasekaran, B., Xie, Z., & Reetzke, R. (2016). Music training and the neural processing of speech: A critical review of the literature. In Augustine Agwuele, & Andrew Lotto (Eds.), *The Frequency-Following Response: A Window into Human Communication*. Equinox Publishing.

Presentations

Refereed Presentations at Conferences

- Parker, A., McHaney, J. R., Xie, Z., Chandrasekaran, B., & Hampton Wray, A. (presented 2023, February). *Cortical Tracking of Continuous Speech-In-Noise: Children's Use of Linguistic and Acoustic Information*. Presentation at Association for Research in Otolaryngology 46th MidWinter Meeting, Association for Research in Otolaryngology, Orlando, Florida. (International)
- McHaney, J. R., Zhen, L., Anthony, S., Xie, Z., & Parthasarathy, A. (presented 2023, February). *Deficits in Sensory Decision-Making Underlie Self-Perceived Hearing Difficulties*. Presentation at Association for Research in Otolaryngology 46th MidWinter Meeting, Association for Research in Otolaryngology, Orlando, Florida. (International)
- Podium Presentation.

Xie, Z. (presented 2023, February). *Lexical Bias in Phonemic Categorization: Effects of Spectral Degradation, Cognitive Load, and Aging*. Presentation at Association for Research in Otolaryngology 46th MidWinter Meeting, Association for Research in Otolaryngology. (International)

Podium presentation.

Xie, Z. (presented 2023, February). *Robust Voice Emotion Recognition Under Cognitive Load*. Poster presentation at Association for Research in Otolaryngology 46th MidWinter Meeting, Association for Research in Otolaryngology, Orlando, Florida. (International)

Goupell, M. J., Xie, Z., Gaskins, C. R., Anderson, S., & Gordon-Salant, S. (presented 2022, May). *Assessing age-related temporal processing deficits with single word contrasts in cochlear-implant users*. Presentation at 182nd Meeting of the Acoustical Society of America, The Acoustical Society of America, Denver, CO. (National) Retrieved from <https://doi.org/10.1121/10.0010761>

Brown, H., Song, V., Low, M., & Xie, Z. (presented 2022, May). *Perception of temporal cues in word segments as a function of spectral resolution and stimulus context*. Poster presentation at 182nd Meeting of the Acoustical Society of America, The Acoustical Society of America, Denver, CO. (National) Retrieved from <https://doi.org/10.1121/10.0010854>

Song, V., Brown, H., Low, M., & Xie, Z. (presented 2022, May). *Perception of temporal cues in word segments under bimodal divided attention in simulated cochlear implant listening*. Poster presentation at 182nd Meeting of the Acoustical Society of America, The Acoustical Society of America, Denver, CO. (National) Retrieved from <https://doi.org/10.1121/10.0010853>

Gnanateja, G. N., Xie, Z., & Chandrasekaran, B. (presented 2022, February). *Attention Effects on Neural Encoding of Temporal Envelope and Periodicity in Continuous Speech*. Poster presentation at Association for Research in Otolaryngology 45th Annual MidWinter Meeting, Association for Research in Otolaryngology, Virtual. (International)

Xie, Z., Johnson, K. C., Shader, M. J., Mayo, P. G., Gibbs, B. E., & Goupell, M. J. (presented 2021, July). *Effect of chronological age on pulse rate discrimination in adult cochlear-implant users*. Presentation at Conference on Implantable Auditory Prostheses, Conference on Implantable Auditory Prostheses, Virtual. (International)

Featured Recorded Talk.

Xie, Z., Anderson, S., Gordon-Salant, S., & Goupell, M. J. (presented 2020, January). *Age-related Temporal Processing Deficits for Word Segments in Adult Cochlear-Implant Users: Perceptual and Electrophysiological Evidence*. Poster presentation at Association for Research in Otolaryngology 43rd Annual MidWinter Meeting, Association for Research in Otolaryngology, San Jose, CA. (International)

- Xie, Z., & Chandrasekaran, B. (presented 2020, January). *Taking Attention Away from the Auditory Modality: Behavioral and Electrophysiological Effects on Continuous Speech Processing*. Presentation at Association for Research in Otolaryngology 43rd Annual MidWinter Meeting, Association for Research in Otolaryngology, San Jose, CA. (International)
- Xie, Z., Anderson, S., Gordon-Salant, S., & Goupell, M. J. (presented 2019, November). *Processing temporal cues for word identification in adult cochlear-implant users: Effects of aging and context*. Poster presentation at 8th Annual Aging & Speech Communication Conference, University of South Florida, Tampa, FL. (International)
- Xie, Z., Stakhovskaya, O. A., Goupell, M. J., & Anderson, S. (presented 2019, July). *Age-related deficits in auditory cortical processing in cochlear-implant users*. Poster presentation at Conference on Implantable Auditory Prostheses, Conference on Implantable Auditory Prostheses, Lake Tahoe, CA. (International)
- Xie, Z., Stakhovskaya, O. A., Goupell, M. J., & Anderson, S. (presented 2019, February). *Aging effects on the auditory evoked cortical potentials in cochlear-implant users: The role of stimulus presentation rate*. Poster presentation at Association for Research in Otolaryngology 42nd MidWinter Meeting, Association for Research in Otolaryngology, Baltimore, MD. (International)
- Tessmer, R., Xie, Z., & Chandrasekaran, B. (presented 2018, November). *Pupil dilation as an index of non-native speech category learning*. Poster presentation at 59th Psychonomic Society Annual Meeting, The Psychonomic Society, New Orleans, LA. (International)
- Llanos, F., Reetzke, R., Xie, Z., & Chandrasekaran, B. (presented 2018, August). *Using machine learning to model effects of attention and language-experience on neural phonemic constancy*. Poster presentation at 10th Annual Meeting of the Society for the Neurobiology of Language, Society for the Neurobiology of Language, Québec City, Québec, Canada. (International)
- Xie, Z., & Chandrasekaran, B. (presented 2018, June). *Dividing attention to the visual modality impairs the processing of continuous speech*. Poster presentation at 24th Annual Meeting of the Organization for Human Brain Mapping, The Organization for Human Brain Mapping, Singapore. (International)
- Did not attend.
- Reetzke, R., Xie, Z., & Chandrasekaran, B. (presented 2017, September). *Effects of selective attention and language experience on cortical entrainment to continuous speech*. Poster presentation at 6th International Conference on Auditory Cortex, International Conference on Auditory Cortex, Banff, Alberta, Canada. (International)
- Llanos, F., Xie, Z., & Chandrasekaran, B. (presented 2017, June). *Decoding linguistically-relevant pitch patterns from frequency-following responses using hidden*

Markov models. Poster presentation at 173rd Meeting of the Acoustical Society of America, The Acoustical Society of America, Boston, MA. (National)

Reetzke, R., Xie, Z., & Chandrasekaran, B. (presented 2017, February). *Effects of language experience and long-term training on the neural weighting and categorical perception of pitch dimensions*. Presentation at Association for Research in Otolaryngology 40th MidWinter Meeting, Association for Research in Otolaryngology, Baltimore, MD. (International)

Xie, Z., & Chandrasekaran, B. (presented 2017, February). *Taking attention away from the auditory modality: Subcortical representation of speech signals during inattentive deafness*. Poster presentation at Association for Research in Otolaryngology 40th MidWinter Meeting, Association for Research in Otolaryngology, Baltimore, MD. (International)

Xie, Z., & Chandrasekaran, B. (presented 2016, November). *Subcortical encoding of sound: Interaction between attentional demand and stimulus regularity*. Poster presentation at 15th Annual Auditory Perception, Cognition and Action Meeting, Auditory Perception and Cognition Society, Boston, MA. (International)

Chen, J., Yang, H., Xie, Z., Li, L., & Wu, X. (presented 2016, May). *Difference between Mandarin Chinese and English speech masking caused by signal-driven processes*. Poster presentation at 171st Meeting of the Acoustical Society of America, The Acoustical Society of America, Salt Lake City, UT. (National)

Chandrasekaran, B., Reetzke, R., Yi, Han-Gyol, Roeder, J., & Maddox, W. T. (presented 2016, May). *Experience-dependent plasticity in the neural weighting of pitch dimensions: A machine learning approach*. Poster presentation at 171st Meeting of the Acoustical Society of America, The Acoustical Society of America, Salt Lake City, UT. (National)

Reetzke, R., Xie, Z., Yi, Han-Gyol, Maddox, W. T., Dimakis, A. G., & Chandrasekaran, B. (presented 2016, February). *Dynamics of short-term experience-dependent plasticity in human subcortical auditory function*. Presentation at Association for Research in Otolaryngology 39th MidWinter Meeting, Association for Research in Otolaryngology, San Diego, CA. (International)

Chandrasekaran, B., Xie, Z., Yi, Han-Gyol, & Reetzke, R. (presented 2016, February). *Midbrain-based decoding of vowel and speaker information in humans*. Poster presentation at Association for Research in Otolaryngology 39th MidWinter Meeting, Association for Research in Otolaryngology, San Diego, CA. (International)

- Xie, Z., Reetzke, R., Yi, Han-Gyol, Maddox, W. T., Dimakis, A. G., & Chandrasekaran, B. (presented 2016, February). *Subcortical decoding of stimulus, group experience, and individuality*. Poster presentation at Association for Research in Otolaryngology 39th MidWinter Meeting, Association for Research in Otolaryngology, San Diego, CA. (International)
- Xie, Z., Maddox, W. T., & Chandrasekaran, B. (presented 2015, May). *Elevated depressive symptoms associate with an emotion-general deficit in speech perception at a cocktail party*. Poster presentation at 169th Meeting of the Acoustical Society of America, The Acoustical Society of America, Pittsburgh, PA. (National)
- Xie, Z., & Chandrasekaran, B. (presented 2015, May). *Intra-subject variability in frequency-following responses and cortical event-related responses to Mandarin tones*. Presentation at 169th Meeting of the Acoustical Society of America, The Acoustical Society of America, Pittsburgh, PA. (National)
- Reetzke, R., Lam, B. P., Xie, Z., Sheng, L., & Chandrasekaran, B. (presented 2014, October). *Developmental and linguistic factors of audiovisual speech perception across different masker types*. Poster presentation at 168th Meeting of the Acoustical Society of America, The Acoustical Society of America, Indianapolis, IN. (National)
- Xie, Z., Maddox, W. T., Knopik, V. S., McGear, J. E., & Chandrasekaran, B. (presented 2014, October). *Individual differences in speech perception in noise: A neurocognitive genetic study*. Poster presentation at 168th Meeting of the Acoustical Society of America, The Acoustical Society of America, Indianapolis, IN. (National)

Contracts and Grants

Contracts and Grants Funded

- Xie, Z. (Jun 2023–Aug 2023). *Using Continuous Speech Paradigm to Study Brain Mechanisms for Speech Understanding in Adult Cochlear Implant Users: A Pilot Study*. Funded by FYAP program - Council on Research & Creativity at Florida State University. Total award \$20,000.
- Xie, Z., & Gratton, C. (May 2023–May 2024). *Plasticity of Brain Networks Supporting Speech Perception in Older Adults with Hearing Loss after Hearing Rehabilitation*. Funded by Institute for Successful Longevity Planning Grant Program at Florida State University. Total award \$25,000.
- Xie, Z. (Jul 2021–Jun 2022). *Age-related temporal processing deficits on cortical representation in cochlear-implant users*. Funded by University of Kansas Medical Center. Total award \$32,010.

Contracts and Grants Pending

Xie, Z., & Qian, Z. (Oct 2023). *Tracking the Trajectory of Sensory and Linguistic Plasticity in Second Language Acquisition in Adulthood*. Submitted to Seed Grant program - Council on Research & Creativity at Florida State University.

Service

Florida State University

FSU Department Service

Member, Doctoral Program (2022–present).

Member, Scholarships, Awards, & Honors (2022–present).

Member, Admissions (2022–2023).

The Profession

Guest Reviewer for Refereed Journals

Frontiers in Psychology (Feb 2023–present).

Heliyon (Feb 2023–present).

Frontiers in Psychology (Sep 2022–present).

Journal of Speech, Language, and Hearing Research (May 2022–present).

Heliyon (Feb–Aug 2023).

Frontiers In Psychology (Feb–Apr 2023).

Journal of Speech, Language, and Hearing Research (Oct–Nov 2022).

Frontiers in Psychiatry (Apr–May 2022).

Frontiers in Neuroscience (Mar–May 2022).

American Journal of Audiology (Jan–Apr 2022).

International Journal of Audiology (Dec 2021–Apr 2022).

Human Brain Mapping (Nov 2021–Apr 2022).

Speech Communication (Jan 2021–Feb 2022).

Frontiers in Aging Neuroscience (Dec 2021–Jan 2022).

Frontiers in Neuroscience (Aug–Nov 2021).

Frontiers in Aging Neuroscience (Oct 2021).

Frontiers in Public Health (Jun–Sep 2021).

Speech Communication (Nov 2020–Jul 2021).

The Journal of the Acoustical Society of America (Oct 2020–Feb 2021).

Journal of Speech, Language, and Hearing Research (Jan–Mar 2020).

Neuroscience Letters (2020).

Neurobiology of Aging (Oct–Nov 2019).

SAGE Open (Mar–Jun 2019).

Journal of Speech, Language, and Hearing Research (May–Oct 2018).

Service to Other Universities

Member, Audiology (Au.D.) Curriculum Committee, *University of Kansas Medical Center, School of Health Professions, Department of Hearing and Speech* (2020–2022).