Zhe-chen Guo (郭哲宸)

✉ zcguo@northwestern.edu   🌐 zc-guo.github.io

📞 +1 737-465-2930   ♻ osf.io/4pq2c

📍 Frances Searle Building, 2240 Campus Drive, Evanston, IL 60208   ⓘ 0000-0003-0870-8321

Academic Appointments

Postdoctoral Scholar   Oct. 2023 –
Department of Communication Sciences and Disorders, Northwestern University
PI: Bharath Chandrasekaran

Education

Ph.D. in Linguistics, University of Texas at Austin (UT Austin)   2023
Dissertation: The effects of speaking style, noise, and semantic context on speech segmentation: Evidence from artificial language learning and eye-tracking experiments
Committee: Rajka Smiljanic (chair), Scott Myers, Fernando Llanos, Georgia Zellou (UC Davis)

M.A in Applied Linguistics, National Sun Yat-sen University (NSYSU)   2017
Thesis: *The cue of rising tone to spoken word segmentation: A study of listeners of Taiwanese Southern Min*
Committee: Shu-chen Ou (chair), Aleck Shih-wei Chen, Yung-hsiang Shawn Chang

B.A. in Foreign Languages and Literature, NSYSU   2014

Publications

Peer-reviewed journal articles:

1. **Guo, Z.-C.**, & Smiljanic, R. (in revision). Ham or hamster? Eye-tracking evidence of clear speech benefit for word segmentation in quiet and in noise.

2. **Guo, Z.-C.**, & Smiljanic, R. (2023). Speakers coarticulate less in response to both real and imagined communicative challenges: An acoustic analysis of the LUCID corpus. *Journal of Phonetics*, *97*, 101210. 10.1016/j.wocn.2022.101210

3. Ou, S.-C., & **Guo, Z.-C.** (2022). The effect of lengthening aspiration on speech segmentation. *JASA Express Letters*, *2*(4), 045202. 10.1121/10.0010242

4. **Guo, Z.-C.**, & Smiljanic, R. (2021). Speaking clearly improves speech segmentation by statistical learning under optimal listening conditions. *Laboratory Phonology*, *12*(1), 14. 10.5334/labphon.310

5. **Guo, Z.-C.**, & Ou, S.-C. (2021). The use of tonal coarticulation in segmentation of artificial language speech: A study with Mandarin listeners. *Applied Psycholinguistics*, *42*(3), 631–655. 10.1017/S0142716420000818

6. Ou, S.-C., & **Guo, Z.-C.** (2021). The language-specific use of F0 rise in segmentation of an artificial language: Evidence from listeners of Taiwanese Southern Min. *Language and Speech*, *64*(2), 437–466. 10.1177/0023830919886604

7. Ou, S.-C., & **Guo, Z.-C.** (2021). The differential effects of vowel and onset consonant lengthening on speech segmentation: Evidence from Taiwanese Southern Min. *The Journal of Acoustical Society of America*, *149*(3), 1866–1877. 10.1121/10.0003751

8. **Guo, Z.-C.**, & Ou, S.-C. (2014). Perception of articulatorily different Mandarin retroflexes by Japanese speakers: A pilot study. *NTU Working Papers in Chinese Language Teaching*, *2*, 1–28. Taipei: National Taiwan University. 10.6664/NTUTCSL.201408_(2).0004

9. Ou, S.-C., & **Guo, Z.-C.** (2014). Mandarin retroflex sounds perceived by non-native speakers. *Journal of Language and Literature Studies*, *26*, 41–76.

Peer-reviewed conference proceedings:

1. **Guo, Z.-C.**, & Smiljanic, R. (2023). Clear speech facilitates word segmentation: Evidence from eye-tracking. In Radek Skarnitzl & Jan Volín (Eds.), *Proceedings of the 20th International Congress of Phonetic Sciences* (pp. 177–181). Guarant International. (presented orally, Prague, Czech Republic, August 7–11)

2. Ou, S.-C., & **Guo, Z.-C**. (2023). The effect of shortening onset consonants on speech segmentation by Taiwanese Southern Min listeners. In Radek Skarnitzl & Jan Volín (Eds.), *Proceedings of the 20th International Congress of Phonetic Sciences* (pp. 167–171). Guarant International. (poster, Prague, Czech Republic, August 7–11)

3. **Guo, Z.-C.**, & Smiljanic, R. (2021). Speakers coarticulate less when facing real and imagined communicative difficulties: An analysis of read and spontaneous speech from the LUCID corpus. In *Proceedings of Interspeech 2021* (pp. 4009–4013). 10.21437/Interspeech.2021-1640 (presented virtually, Brno, Czech Republic, August 30–September 3)

4. Ou, S.-C., & **Guo, Z.-C**. (2020). The opposite effects of vowel and onset consonant lengthening on speech segmentation. In *Proceedings of the 10th International Conference on Speech Prosody*. 10.21437/SpeechProsody.2020-16 (presented virtually, Tokyo, Japan, May 24–28)

5. **Guo, Z.-C.**, & Ou, S.-C. (2019). The use of tonal coarticulation in speech segmentation by listeners of Mandarin. In *Proceedings of the 19th International Congress of Phonetic Sciences*. (presented orally, Melbourne, Australia, August 4–10)

6. Ou, S.-C., & **Guo, Z.-C.** (2019). The role of initial F0 rise in speech segmentation: A cross-linguistic study. In *Proceedings of the 19th International Congress of Phonetic Sciences*. (poster, Melbourne, Australia, August 4–10)

7. Ou, S.-C., & **Guo, Z.-C.** (2015). The effect of stress on English word recognition by native speakers of typologically different languages. In *Proceedings of the 18th International Congress of Phonetic Sciences*. (presented orally, Glasgow, UK, August 10–14)

Conference Presentations

*: listed as citable abstract

1. **Guo, Z.-C.**, & Smiljanic, R. (2023). Clear speech benefit for word segmentation is modulated by contextual-semantic cues: Evidence from eye-tracking. Paper to be presented at the *Psychonomic Society 64th Annual Meeting*.

2. ***Guo, Z.-C.**, Pangottil, K., Chandrasekaran, B., & Llanos, F. (2023). Decoding speech envelopes from electroencephalographic recordings: A comparison of regularized linear regression and long short-term memory deep neural network. *The Journal of the Acoustical Society of America*, *153*(3), A158. 10.1121/10.0018496 (poster at the *184th Meeting of the Acoustical Society of America*, Chicago, May 8–12)

3. ***Guo, Z.-C.**, Smiljanic, R. (2023). Clear speech improves word segmentation in quiet and in noise: Evidence from visual-world eye-tracking. *The Journal of the Acoustical Society of America*, *153*(3), A168. 10.1121/10.0018543 (poster at the *184th Meeting of the Acoustical Society of America*, Chicago, May 8–12)

4. ***Guo, Z.-C.**, Smiljanic, R. (2022). Coarticulation is reduced in clear speech produced with protective face masks. *The Journal of the Acoustical Society of America*, *152*(4), A286. 10.1121/10.0016295 (poster at the *183rd Meeting of the Acoustical Society of America*, Nashville, December 5–9)

5. Dai, S., Frank, K., Jess, N., **Guo, Z.-C.** (2022). Network effects on Twitter users' language use and issue disposition of CRT: A machine-learning approach investigating the influence model. The *2022 Midwest Sociology of Education Conference* (Indiana, October 27–28).

6. **Guo, Z.-C.,** & Smiljanic, R. (2022). Coarticulatory vowel nasalization in read and listener-directed speech across communicative contexts: An analysis of the LUCID corpus. The *18th Conference on Laboratory Phonology* (presented virtually, June 23–25).

7. Ou, S.-C., & **Guo, Z.-C.** (2022). Is onset-consonant lengthening a universal word beginning cue? A cross-linguistic study of English and French listeners. The *29th Manchester Phonology Meeting* (presented virtually, May 25–27).

8. ***Guo, Z.-C.,** & Smiljanic, R. (2022). The degree and time course of nasal coarticulation across communicative contexts: A study of the LUCID corpus. *The Journal of the Acoustical Society of America*, *151*(4), A65. 10.1121/10.0010676 (poster at the *182nd Meeting of the Acoustical Society of America*, Denver, May 23–27).

9. ***Guo, Z.-C.,** & Smiljanic, R. (2021). Coarticulation across communicative contexts: An acoustic analysis of the LUCID corpus using spectral and temporal measures. *The Journal of the Acoustical Society of America*, *150*(4), A70. 10.1121/10.0007659 (poster at the *181st Meeting of the Acoustical Society of America*, Seattle, November 29–December 3)

10. Ou, S.-C., & **Guo, Z.-C.** (2021). The effect of aspiration lengthening on speech segmentation: An artificial language learning study. The *28th Manchester Phonology Meeting* (presented virtually, May 26–28).

11. ***Guo, Z.-C.** (2020). Tonal carryover assimilation is exploited as a speech segmentation cue in the case of cue conflict. *The Journal of the Acoustical Society of America*, *148*(4), 2504–2504. 10.1121/1.5146952 (presented virtually, December 7–11)

12. Ou, S.-C., & **Guo, Z.-C.** (2020). The effects of segment lengthening on speech segmentation. The *13th International Symposium on Taiwanese Languages and Teaching* (presented orally, Hsinchu, October 16–17).

13. ***Guo, Z.-C.**, & Smiljanic, R. (2019). Speaking clearly improves speech segmentation in optimal listening conditions. *The Journal of the Acoustical Society of America*, *146*(4), 3052–3052. 10.1121/1.5137579 (poster at the *178th Meeting of the Acoustical Society of America*, San Diego, California, December 2–6)

14. Ou, S.-C., & **Guo, Z.-C.** (2018). The role of lexical tone in speech segmentation by listeners of Taiwanese Southern Min: A corpus and experimental study. The *7th International Conference on Phonology and Morphology* (presented orally, Seoul, Korea, June 29–30).

15. Ou, S.-C., & **Guo, Z.-C.** (2017). The language-specific use of F0 rise in speech segmentation by listeners of Taiwanese Southern Min. *ILAS Workshop on Phonetics and Phonology* (presented orally, Taipei, October 23–24).

16. Ou, S.-C., & **Guo, Z.-C.** (2017). Is the cue of pitch rise to spoken word segmentation used in a language-specific or cross-linguistic way? A study of listeners of Taiwanese Southern Min. *Phonetics and Phonology in Europe 2017* (presented orally, Cologne, Germany, June 12–14).

17. Ou, S.-C., & **Guo, Z.-C.** (2016). The use of lexical tone in spoken word segmentation by Taiwanese Southern Min listeners. The *24th Annual Conference of the International Association of Chinese Linguistics* (presented orally, Beijing, China, July 17–19).

18. **Guo, Z.-C.** (2014). Perception of articulatorily different Mandarin retroflexes by Japanese speakers: A pilot study. The *2nd NTU Postgraduate Conference on Teaching Chinese as a Second Language* (presented orally, Taipei, March 29).

Fellowships, Grants, and Honors

IPA Student Travel Award for ICPhS 2023 ($743) International Phonetic Association	2023
University Graduate Continuing Fellowship ($46,601) Full stipend, tuition, and insurance support for 12 months Graduate School, UT Austin	2022 – 2023
Taiwanese Overseas Pioneers Grants ($29,700) National Science and Technology Council, Taiwan	2022 – 2023
Dissertation Fellowship for ROC Students Abroad ($20,000, declined) Chiang Ching-kuo Foundation for International Scholarly Exchange	2022
Graduate Research Fellowships ($1,000) British, Irish and Empire Studies (BIES) program, UT Austin	2022
Interspeech 2021 travel grant ($141) International Speech Communication Association	2021

Carlota Smith Fellowship ($1,231)   2020
  Department of Linguistics, UT Austin

Government Scholarship to Study Abroad ($32,000)   2019 – 2021
  Ministry of Education, Taiwan

Acoustical Society of America Student Travel Subsidies ($390)   2019 – 2022

Professional Development Awards ($1,499)   2019

Spring Supplemental Graduate Fellowship ($5,000)   2019
  Graduate School, UT Austin

Candidate for Best Master's Thesis of the Year   2017
  Linguistic Society of Taiwan

Five-year B.A./M.A. Combined Degree Program Fellowship ($3,966)   2014 – 2015
  Department of Foreign Languages and Literature, NSYSU

College Student Research Grant ($1,421)   2013 – 2014
  Ministry of Science and Technology, Taiwan (Project ID: 102–2815–C–110–010–H)

NSYSU Excellent Student Award (5 awards, $992 total)   2011 – 2013

Research Experience

Graduate Research Assistant   2022
  Assistant for Neural Speech Decoding project (full-time: Jul – Aug 2022; PI: Jun Wang)
  Department of Computer Science, UT Austin

Graduate Student Lab Member   2018 – 2023
  UTSoundLab (PI: Rajka Smiljanic)
  Department of Linguistics, UT Austin

Research Assistant   2013 – 2018
  Assistant (full-time: 2017–2018; part-time: 2013–2017) for NSYSU Phonetics and Phonology Lab
  (PI: Shu-chen Ou)
  Department of Foreign Language and Literature, NSYSU

Teaching Assistantships

UT Austin:
  Exploring Accents, Scott Myers (Fall 2020)
  Introduction to the Study of Language, Nora England (Spring 2019)
  Sound Patterns: Sound to Word, Megan Crowhurst (Fall 2018, Spring 2021) and Scott Myers (Fall 2019; Spring 2020, Fall 2021, Spring 2022)

NSYSU:
  Phonetics, Shu-chen Ou (Fall 2015, Fall 2016)
  Phonology in English Language Teaching and Learning, Shu-chen Ou (Spring 2016)
  Introduction to English Linguistics (I), Shu-chen Ou (Fall 2015)
  English Writing I, Shu-chen Ou (Fall 2016, Spring 2016)
  General English: Intermediate, Shu-chen Ou (Fall 2016, Spring 2016)

Professional Service

Invited talks/workshops/conferences:

NYCU Phon Brown Bag Series   2022
  Virtual talk at National Yang Ming Chiao Tung University (Dec 16, 2022)

Conference co-organizer   2019 – 2020
  The 19th Meeting of the Texas Linguistics Society (Feb 14–15, 2020)

Co-lecturer of Workshop on Speech Perception Experiments   2015
  Led hands-on tutorial on designing perceptual experiments using E-Prime 2.0 (National
  Chengchi University, Oct 30, 2015)

Invited journal reviewer:
Applied Psycholinguistics (2023)
Language and Speech (2021)
JASA Express Letters (2022, 2023)
Quarterly Journal of Experimental Psychology (2022, 2023)

Technical Skills

Programming languages	Python, R/R Markdown
Phonetic analysis	Praat/Praat scripting
Experiment builders	E-Prime 2.0/3.0, PsychoPy, Experiment Builder, Gorilla, Paradigm
Eye-tracker	EyeLink Portable Duo
Statistical software	MATLAB, SPSS, SAS
Audio editor	Audacity, GoldWave

Languages

Taiwan Mandarin	Native
Taiwanese Southern Min	Native
English	Proficient
Japanese	Beginner