Sihan **Chen**

PHD CANDIDATE · DEPARTMENT OF BRAIN AND COGNITIVE SCIENCES

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Education

Massachusetts Institute of Technology   *Cambridge, MA, United States*
PHD IN COGNITIVE SCIENCE   *September 2020 - present*
- Advisor: Dr. Edward Gibson

University of Miami   *Coral Gables, FL, United States*
BS IN MECHANICAL ENGINEERING   *January 2016 - December 2019*
- Minor in Mathematics
- graduated summa cum laude

Professional Experience

2020	**Assistant Scientist**, SilicoSpine Inc. Miami, FL
2018-2019	**Undergraduate Research Assistant**, Mechanical Engineering, University of Miami
2017-2019	**Peer Tutor**, Camner Academic Resource Center, University of Miami

Publications

JOURNAL ARTICLES

1. Zhan, M., **Chen, S.** (equal contributions), Levy, R., Lu, J., Gibson, E. (2023), Rational Sentence Interpretation in Mandarin Chinese. *Cognitive Science*

2. **Chen, S.**, Futrell, R., Mahowald, K. (2023), Investigating information-theoretic properties of the typology of spatial demonstratives. *Cognition*, 240, 105505.

3. **Chen, S.**, Nathaniel, S., Ryskin, R., Gibson, E., (2023), The effect of context on noisy-channel sentence comprehension. *Cognition*, 238, 105503.

4. Everett, C., **Chen, S** (2021), Speech adapts to differences in dentition within and across populations. *Scientific Reports* 11, 1066.

5. Zhu, Q., Gao, X., **Chen, S.**, Gu, W., Brown, M. D., (2020) Effects of Intervertebral Disc Degeneration on Mechanical and Electrical Signals at the Interface between Disc and Vertebra. *Journal of Biomechanics*, 104, 109756.

CONFERENCE PROCEEDINGS

1. **Chen, S.** & Everett, C. (2020), Did Post-Neolithic Changes in Bite Configuration Impact Speech? A New Approach to the Question. *Proceedings to the 13th International Conference on the Evolution of Language,* Brussels, Belgium

CONFERENCE PRESENTATIONS / POSTERS

1. **Chen, S**, Benítez-Burraco, A., Cahuana, C., Gil, D., Progovac, L., Reifegerste, J., Yuditha, T., & Tatarinova, T. (2023), Cognitive and genetic correlates of a single macro-parameter of crosslinguistics variation. *Protolang 2023*, Rome, Italy, September 27, 2023

2. **Chen, S**, Benítez-Burraco, A., Gaponov, S., Gil, D., Progovac, L., Reifegerste, J., Tatarinova, T. (2023), Linking language variation to sociopolitical variation. *Sociotypology: linking language variation to sociological diversity; Workshop at the 56th Annual Meeting of the Societas Linguistica Europaea* Athens, Greece, August 31, 2023

3. Benítez-Burraco, A., **Chen, S.**, Gil, D., Gaponov, S., Reifegeste, J., Yuditha, T., Tatarinova, T., & Progovac, Lj. (2023).Patterns of correlation between linguistic and sociopolitical complexity. Presentation at Complexity in Language Variation and Change 2023. Tokyo, Japan. August 4 2023 [online]

4. Yuditha, T., **Chen, S.**, Benítez-Burraco, A. (2023). Exotericity and Esotericity in Languages of Indonesia: A Priliminary Study. Talk presented at the 26th International Symposium on Malay and Indonesian Linguistics (ISMIL) 26, The University of Hawaiʻi at Mānoa, April 19, 2023. [online].

5. Washington, L., **Chen, S.**, Gibson, E. (2023), The Influence of Prior Semantic Knowledge in Noisy Channel Interpretation. Poster at the 36th Annual Conference on Human Sentence Processing, Pittsburgh, PA, March 9 2023

6. **Chen, S.**, Conway, B., Gibson, E. (2023), Russian blues do not reveal an effect of language on perception: a reanalysis of the original study. Poster at the 36th Annual Conference on Human Sentence Processing, Pittsburgh, PA, March 9 2023

7. Benítez-Burraco, A., Cahuana, C., **Chen, S**, Gil, D., Progovac, L., Reifegerste, J., Tatarinova, T. (2022), Cognitive and genetic correlates of a single macro-parameter of crosslinguistics variation. *Joint Conference on Language Evolution.* Kanazawa, Ishikawa, Japan, September 7, 2022

8. Fleming, J., **Chen, S.**, Gibson, E., (2022), Noisy-Channel Sentence Interpretation in Spanish. ABRCMS 2022, Anaheim, CA, November 2022

9. **Chen, S.**, Futrell, R., Mahowald, K. (2022), An information-theoretic approach to the typology of spatial adverbs. *The 4th Workshop on Research in Computational Typology and Multilingual NLP.* Seattle, WA, July 14, 2022

10. **Chen, S.**, Futrell, R., Mahowald, K. (2022), An information-theoretic approach to the typology of spatial adverbs. 35th Annual Conference on Human Sentence Processing. Santa Cruz, CA. March 25, 2022.

11. Zhu, Q., Gao, X., Brown, M. D., **Chen, S.**, Gu, W., (2020), Effects of Intervertebral Disc Degeneration on Mechanical and Electrical Signals at the Interface between Disc and Vertebra. Orthopaedic Research Society 2020 Annual Meeting. New Orleans, LA. February 5, 2020.

In Review

1. Benítez-Burraco, A., **Chen, S.**, Gil, D., (in review), The absence of a trade-off between morphological and syntactic complexity

2. **Chen, S.**, Gil, D., Benítez-Burraco, A., (in review), Languages of esoteric societies provide a window into a previous stage in the evolution of human languages.

3. Gil, D., **Chen, S.**, Benítez-Burraco, A., (in review), The Mekong-Mamberamo Mystery.

4. **Chen, S.**, Gil, D., Gaponov, S., Reifegeste, J., Yuditha, T., Tatarinova, T., Progovac, L., and Benitez-Burraco, A. (in review), Cognitive and linguistic correlates of societal variation: A quantitative analysis.

5. Mao, R., **Chen, S.**, Gibson, E. (in review). How do Mandarin native speakers interpret implausible sentences?

6. Ramscar, M., **Chen, S.**, Mahowald, K. (in review), Cross-Cultural Structures Of Personal Name Systems Reflect General Communicative Principles.

In Prep

1. Benítez-Burraco, A., **Chen, S.**, Gil, D. (in prep), Lack of a trade-off between the morphological complexity and syntactic complexity of the world languages: What if there is no such trade-off between morphological and syntactic complexity?

2. **Chen, S.**, Conway, B., Gibson, E. (in prep), Russian blues do not reveal an effect of language on perception: a reanalysis of the data in the original study.

3. **Chen, S.**, Gibson, E., & Ramscar, M. (in prep). Corpus frequency measures fail to capture the dynamic nature of human communicative codes.

4. Yuditha, T., **Chen, S.**, Gil, D., Reifegeste, J., Benítez-Burraco, A. (in prep), Cognitive correlates of the trade-off between morphological and syntactic complexity: the languages of Indonesia as a case study.

Awards, Fellowships, & Grants

2020-2022   **Hilibrand Fellowship**, MIT Dept of Brain and Cognitive Sciences
2022-2023   **Singleton Fellowship**, MIT Dept of Brain and Cognitive Sciences

Presentations

December 2021. *Investigating the efficiency of spatial deictic adverbs*, Cog Lunch, MIT

May 2022. *Winawer et al. (2007) revisited: the role of language on color cognition*, Cog Lunch, MIT

November 2022. *Explaining language complexity from sociopolitical complexity*, Cog Lunch, MIT

Teaching Experience

Spring 2023	**Lab in Psycholinguistics (9.59)**, Teaching Assistant	*MIT*
Fall 2021	**Computational Cognitive Science (9.66)**, Teaching Assistant	*MIT*
Fall 2018, Spring 2019	**Calculus II review session**, Peer Tutor	*Univ. of Miami*

Mentoring

Summer 2022	**Jorie Fleming**, MSRP Student, Washington University in St Louis	*Cambridge, MA*
Summer 2022	**Lia Washington**, Post-Baccalaureate Reserch Scholar, MIT	*Cambridge, MA*

Outreach & Professional Development

PEER REVIEW

- 2022: Open Mind, Nature, PNAS

Media coverage

2023	**Uncovering the invisible pressures shaping language**, MIT News (MIT), https://news.mit.edu/2023/sihan-chen-uncovering-invisible-pressures-shaping-language-0627
2021	**Scholars link diet, dentition, and linguistics**, NewsTheU (University of Miami), https://news.miami.edu/stories/2021/01/scholars-link-diet,-dentition,-and-linguistics.html
2019	**In Search for Hidden Worlds**, NewsTheU (University of Miami), https://news.miami.edu/stories/2019/03/in-search-of-hidden-worlds.html

Languages

- Native / bilingual proficiency: Chinese Mandarin, English

- Intermediate: Spanish

- Beginner: Greek

- Programming languages: Python, R, Matlab

- Writing systems: Chinese, Latin, Cyrillic, Greek, Armenian