

## Chanyuan Gu (古婵媛)

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Personal website: <https://chanyuan-gu.github.io/>

### EMPLOYMENT

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**University of Connecticut (UConn)/Haskins Laboratories** 2024.09 – present  
Postdoctoral Research Associate  
PI: Fumiko Hoeft

### EDUCATION & CERTIFICATE

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**The Hong Kong Polytechnic University (PolyU)** 2020.09 – 2024.06  
Ph.D. Department of Chinese and Bilingual Studies Dissertation:  
Neural systems of naturalistic reading comprehension in non-native speakers  
PI: Ping Li

**Princeton University** 2023.02 - 2023.07  
Visiting student Department of Psychology; Princeton Neuroscience Institute  
Projects:  
Neural alignment in non-native speakers during naturalistic reading comprehension  
The correspondence between the large language model and human beings during  
naturalistic reading comprehension  
PI: Uri Hasson and Sam Nastase

**Chinese Academy of Sciences (CAS)** 2017.09 - 2020.08  
Applied Psychology M.S. Institute of Psychology  
Dissertation: Categorical perception of tone in Chinese children with developmental  
dyslexia  
PI: Hong-Yan Bi

**Southwest Jiaotong University (SWJTU)** 2013.09 - 2017.06  
Applied Psychology B.A. Department of Psychological Education  
Selected courses (3.77/4.0): developmental psychology, educational psychology,  
statistical analysis, social psychology, emotional psychology, physiological  
psychology, cognitive psychology

## **RESEARCH INTERESTS**

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Naturalistic language comprehension, Large language models, Bilingual language processing, Child language development, Educational neuroscience, Individual differences.

## **PUBLICATIONS (Peer-reviewed)**

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**Gu, C.\***, Peng, Y.\*, Nastase, S. A., Mayer, R. E., & Li, P. (2024). Onscreen presence of instructors in video lectures affects learners' neural synchrony and visual attention during multimedia learning. *Proceedings of the National Academy of Sciences*, 121(12), e2309054121.

Yu, S., **Gu, C.**, Huang, K., & Li, P. (2024). Predicting the next sentence (not word) in large language models: What model-brain alignment tells us about discourse comprehension. *Science Advances*, 10(21), eadn7744.

**Gu, C.**, & Bi, H. Y. (2020). Auditory Processing Deficit in Individuals with Dyslexia: A Meta-Analysis of Mismatch Negativity. *Neuroscience & Biobehavioral Reviews*, 116, 396-405.

**Gu, C.**, & Bi, H. Y. (2021). The effect of subjective phonetic-radical neighborhood on character naming in developing children. *Psychological Development and Education*. 37(01), 68-75. [in Chinese]

**Gu, C.**, Nastase, S. A., Zada, Z., & Li, P. (2025). Reading comprehension in L1 and L2 readers: neurocomputational mechanisms revealed through large language models. *npj Science of Learning*, 10(1), 46.

**Gu, C.**, Peng, Y., Li, P. (Minor revision under the *Journal of Neurolinguistics*). Advances in bilingualism as a dynamic process: 30 years of exploration in bilingual mind and brain.

Ma, X., Liu, Y., Clariana, R., **Gu, C.**, & Li, P. (2022). From eye movements to scanpath networks: A method for studying individual differences in expository text reading. *Behavior research methods*, 1-21.

Yang, Y., Zuo, Z., Tam, F., Graham, S. J., Li, J., Ji, Y., Meng, Ze., **Gu, C.**, ... & Xu, M. (2022). The brain basis of handwriting deficits in Chinese children with developmental dyslexia. *Developmental Science*, 25(2), e13161.

Yang, Y., Tam, F., Graham, S., Sun, G., Li, J., **Gu, C.**, ... Bi, H-Y., Zuo, Z. (2020). Men and women differ in the neural basis of handwriting. *Human Brain Mapping*, 41(10), 2642-2655.

Wu, J., Xin, P., Pu, X., Yan, G., **Gu, C.**,<sup>+</sup> & Li, H<sup>+</sup>. (Submitted). All proficient foreign language learners resemble the native readers, each less proficient learner struggles in their own distinct way: evidence from alignment of eye-tracking and fMRI. (<sup>+</sup>Co-corresponding author).

**Gu, C.**, Nastase, S. A., & Li, P. (In preparation). Greater synchronization between non-native and native speakers predict better reading performance during naturalistic reading comprehension.

**Gu, C.**, Yi, W., Florence, B., Hancock, R., & Hoeft, F. (In preparation). From parent to child: Intergenerational transmission of neural networks during language

comprehension and calculation.

## **CONFERENCE PRESENTATIONS (Peer-reviewed)**

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**Gu, C.,** Wei, Y., Bouhali, F., Hancock, R., & Hoeft, F. (Sep 2025). From parent to child: Intergenerational transmission of neural networks during language comprehension and calculation. Poster presentation at the 17th Society for the Neurobiology of Language.

**Gu, C., & Li, P.** (Nov 2023). From shared representations to individual variations in non-native speakers: shared activity patterns predict naturalistic reading performance. Poster presentation at the 15th Society for the Neurobiology of Language.

**Gu, C., & Li, P.** (March 2023). Neural alignments during naturalistic reading in non-native speakers predict reading performance. Poster presentation at the 30th Anniversary Meeting of the Cognitive Neuroscience Society.

Peng, Y., **Gu, C., & Li, P.** (March 2023). Social Cues Impact Real-time Neural Synchronization, Visual Attention, and Learning Outcome during Multimedia Learning. Poster presentation at the 30th Anniversary Meeting of the Cognitive Neuroscience Society.

Yu, S., **Gu, C.,** H, K., & Li, P. (March 2023). Representations from deep language models capture neural patterns in naturalistic reading of scientific texts: cognitive plausibility and neural relevance. Poster presentation at the 30th Anniversary Meeting of the Cognitive Neuroscience Society.

**Gu, C.,** Peng, Y., Nastase, S. A., Mayer, R. E., & Li, P. (Nov 2022). The neural basis of multimedia learning and multimodal processing: Social-emotional cues for effective online learning. Oral presentation at the 63rd Annual Meeting of the Psychonomic Society.

**Gu, C., & Li, P.** (July 2022). The neurocognitive bases of word Identification and word-to-text integration: Expository text reading in L1 and L2. Oral presentation at the 32nd Annual Meeting of the Society for Text and Discourse (virtual meeting).

**Gu, C., & Li, P.** (March 2022). Lexical processing in L1 and L2 naturalistic reading: Evidence from neural connectivity and network science. Oral presentation at the 6th Conference of Association for Reading and Writing in Asia (virtual meeting).

**Gu, C., & Li, P.** (Oct 2021). How bilinguals dynamically comprehend words in the text: Evidence from neural connectivity and network science. Slide slam presentation at the 2021 SNL Annual Meeting (virtual meeting).

**Gu, C., & Bi, H. Y.** (Oct 2021). Categorical perception of Mandarin tones in children with developmental dyslexia. Slide slam presentation at the 2021 SNL Annual Meeting (virtual meeting).

**Gu, C., & Bi, H. Y.** (Sep 2020). Auditory processing deficit in individuals with dyslexia: A meta-Analysis of mismatch negativity. Oral presentation at the 4th Conference of Association for Reading and Writing in Asia (virtual meeting).

**Gu, C., & Bi, H. Y.** (Nov 2018). The effect of subjective phonetic-radical neighborhood on character naming in developing children. Oral presentation at the 21th National Academic Congress of Psychology, Beijing, China.

## **OPEN DATASETS**

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Li, P., Hsu, C-T., Schloss, B., Yu, A., Ma, L., Scotto, M., Seyfried, F., and **Gu, C.**  
(2022). The Reading Brain Project L1 Adults. OpenNeuro. [Dataset]  
Li, P., Hsu, C-T., Schloss, B., Yu, A., Ma, L., Scotto, M., Seyfried, F., and **Gu, C.**  
(2022). The Reading Brain Project L2 Adults. OpenNeuro. [Dataset]

## **RESEARCH EXPERIENCE**

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Emotional Well-Being Brain Leader	2024.09 - present
Intergenerational Transmission Leader	2024.09 - present
Reading Brain Leader (dissertation)	2020.11 - 2024.06
Multimedia Learning Leader	2020.10 - 2024.06
Reading-Related Abilities in Twins Assistant	2019.04 - 2019.12
Cognitive neural mechanism and intervention of Chinese developmental dyslexia with writing deficit Assistant	2018.09 - 2019.12
The function of visual macro-cell pathway in Chinese Developmental dyslexia Assistant	2018.09 - 2018.11
The audiovisual integration ability in Chinese children with developmental dyslexia Assistant	2018.09 - 2019.02
The brain function and structural connection of Chinese character writing Assistant	2018.09 - 2019.02
Investigation of AIDS KAP among college students and its influential factors Leader	2015.04 - 2016.04

## **INVITED PRESENTATIONS**

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South China Normal University: From shared neural mechanisms to individual variations during naturalistic reading comprehension in L2 speakers (May 2024)

## **TRAINING**

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**Experimental Data**

fMRI, sMRI, EEG, Behavioral, and eye-tracking data

**Experimental skills**

Data Collection: E-prime and Psychopy

Data Analysis: Python, R, Matlab, DSI Studio, FSL, DataViewer (basic proficiency)

Data Statistics: Python, R, SPSS, and Stata (meta-analysis)

**Languages**

Mandarin Chinese (native), English (fluent), Cantonese (beginner)

**Certificates**

Psychological Consultant (level 3)

Human Resource Certificate (level 3)

High School Psychological Teacher Qualification Certification

**SELECTED AWARDS AND HONORS**

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National Scholarship (2015-2016)

Good reporter (2014-2015)

Miyoshi students (2014-2015)

Comprehensive scholarship (2013-2017)

Simulated psychological consultation contest in Sichuan province (the first prize)

**TEACHING EXPERIENCE**

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Teaching assistant (2021 and 2022)

Courses: Description of Chinese II: Sounds and script

Teaching assistant (Aug 2023)

Workshop: The Neural Mechanism of Language and Large Language Models at

Jiangsu Normal University (语言脑机制与大模型工作坊)