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EMPLOYMENT

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

EDUCATION & CERTIFICATE

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

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

PUBLICATIONS (Peer-reviewed)

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.**,$^{+}$ & Li, H^{+}. (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. ($^{+}$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)

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

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

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

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

TRAINING

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

TEACHING EXPERIENCE

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)