Ruifeng Yu • 余瑞丰

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Academic channel: Link

Research interests

visual word recognition, reading, semantic processing

EDUCATION

Sichuan University, China **2022.9-present**

M.A. in Linguistics & Applied Linguistics

- GPA: 3.92/4
- Advisor : Dr. Feng Gu
- Thesis: "*Manipulability in disguise: The cognitive and neural differences in processing words representing small and big objects*"

Sichuan University, China **2018.9-2022.6**

B.A. in Chinese Language & Literature

- GPA: 3.93/4
- Advisor : Dr. Feng Gu
- Thesis (with distinction): "*Visual event-related potentials reveal the early lexical processing of Chinese characters*"

Publications & Manuscripts

*corresponding author

Yu, R., Wu, Y., & Gu, F.* (2023). Parallel phonological processing of Chinese characters revealed by flankers tasks. *Frontiers in Psychology, 14*. Link

Yu, R., Chen, J., Peng, Y., & Gu, F.* (2022). Visual event-related potentials reveal the early lexical processing of Chinese characters. *Neuropsychologia, 165,* 108132. Link

Yu, R.*, Liu, H., Ran, Y., & Gu, F. [Details omitted for blind review] (under review at *Cortex*).

Yu, R., Ran, Y., & Gu, F. The spatial-temporal dynamics of cross-modality conceptual composition in the human brain (in preparation).

Chen, J., **Yu, R.**, & Gu, F.* Disentangling lexical processing and visual familiarity processing during visual word recognition: An ERP study using Chinese components (submitted).

Invited Talks

Yu, R. (2023, October 19). *Parallel phonological processing of Chinese characters revealed by flankers tasks*. Invited talk at the Department of Psychology, Tianjin Normal University.

Yu, R. (2023, October 18). *From zero to one: How to complete your first SCI/SSCI research paper*. Invited talk at the Department of Psychology, Tianjin Normal University.

Conference Presentations

Yu, R., Liu, H., & Gu, F. (2024, October 24-26). *Manipulability in Disguise: Uncovering Behavioral and Neural Differences in Processing Words Representing Small and Big Objects* [Poster Presentation]. Society for the Neurobiology of Language 16th Annual Meeting 2024 (SNL 2024), Brisbane, Australia.

Yu, R., Liu, H., & Gu, F. (2024, September 5-7). *The Behavioral and Neural Differences in Processing Words Representing Different Size Objects* [Poster Presentation]. Architectures and Mechanisms for Language Processing 2024 (AMLaP 2024), Edinburgh, Scotland.

Yu, R., Liu, H., & Gu, F. (2024, July 8-11). *The Neural Differences in Processing Words Representing Small and Big Objects* [Poster Presentation]. Highlights in the Language Sciences Conference 2024 (HILS 2024), Nijmegen, Netherland.

Yu, R., Wu, Y., & Gu, F. (2024, December 1-3). *Parallel Phonological Processing of Chinese Characters Revealed by Flankers Tasks* [Poster Presentation]. Architectures and Mechanisms for Language Processing Asia 2023 (AMLaP Asia 2023), Hong Kong, China.

Yu, R., Wu, Y., & Gu, F. (2024, September 15). *Parallel Phonological Processing of Chinese Characters Revealed by Flankers Tasks* [Poster Presentation]. Oxford Postgraduate Conference in Linguistics (LingO) 2023, University of Oxford, UK.

Research Experience

Cross-modality conceptual composition in the human brain

Project Leader, supervised by Dr. Qun Li **2024.4-present**

West China Hospital of Sichuan University

- Designed MEG experiments to explore the nerual mechanims underlying cross-modality conceptual composition.
- Conducted a pilot EEG experiment and analyzed the results using feedforward neural network implemented with PyTorch.

Cognitive and neural differences in processing words denoting small and big objects

Project Leader, supervised by Dr. Feng Gu **2023.9-present**

Neurocognitive Laboratory for Linguistics and Semiotics, Sichuan University

- Designed EEG experiments and collected the subjective semantic ratings.
- Applied linear mixed-effects models to analyze behavioral results using R.
- Applied multivariate decoding, the time generalization method and multiple regression representational similarity analysis on EEG data using Matlab and Python.
- Conducted the statistical analysis using R and data visualization using Origin.

Parafoveal phonological processing during visual word recognition

Project Leader, supervised by Dr. Feng Gu **2022.9-2023.10**

Neurocognitive Laboratory for Linguistics and Semiotics, Sichuan University

- Designed a novel experimental procedure combining flankers tasks with staircase procedure to investigate parafoveal processing during visual word recognition.

Early and automatic lexical processing of Chinese characters

Project Leader, supervised by Dr. Feng Gu **2021.3-2021.12**

Neurocognitive Laboratory for Linguistics and Semiotics, Sichuan University

- Recruited 44 participants and carried out two EEG experiments.
- Compared ERP results in color decision and lexical decision tasks to investigate automatic lexical processing of logographic scripts.
- Applied univariate analysis on N170 and mass univariate analysis with FDR correction for exploratory analysis.
- Applied standardized shrinking LORETA-FOCUSS for EEG source reconstruction.

Disentangling lexical and familiarity processing during visual word recognition

Collaborator, supervised by Dr. Feng Gu **2022.2-present**

Neurocognitive Laboratory for Linguistics and Semiotics, Sichuan University

- Helped to design a 2*2 experiment to test the “general familiarity processing hypothesis” explaining the ERP difference in processing high-frequency and low-frequency words.
- Conducted correlation analysis between ERP amplitudes and log-transformed frequencies of Chinese components (experimental stimuli).

Auditory and language development in children with re-implanted cochlear implants

Research Assistant (part-time), supervised by Dr. Haotian Liu **2023.7-2023.8**

Hearing and speech rehabilitation lab, Sichuan Univeristy

- Assisted in recruiting children with re-implanted cochlear implants and in conducting soundfield calibration.
- Conducted the EEG experiment using oddball paradigms with a range of auditory stimuli.

Training

"Deep Learning Specialization" by DeepLearning.AI, Coursera **2024.4-2024.7**

The Fifth Summer School on Applied Linguistics and Cognitive Neuroscience, Jinan University, Guangzhou, China (Awarded Outstanding Student) **2023.7**

Skills

Programming & Software: Python, Matlab, R, E-prime, SPSS

Experimental techniques: EEG, Behavioral measures, MEG (beginner level)

Languages: Chinese (Native), English (TOFEL iBT 109/120)

Extracurricular Activities

• Founded and manage the academic channel "UFO in the Lab", focusing on sharing research in psycholinguistics and neurolinguistics (2022-present). This channel has garnered a subscriber base nearing 7,000 and over 90,000 total views. Link

• Media coverage, Featured on Sichuan University's official account with the headline "Sichuan University Rap Youth: Striving for Excellence in Pursuit of Passion.", 2021. Link

• Vice President of the 808 Hip-Hop Club, Sichuan University, June 2020 – June 2021