Bao Hong (Paul)

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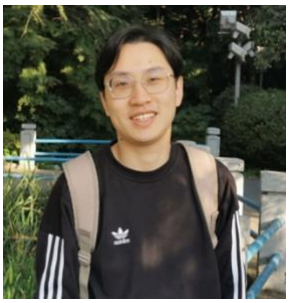

Education

09/2020 – 06/2026 ***Ph.D.,* Cognitive Neuroscience,** East China Normal University (Expected)
Program: NYU Shanghai–ECNU Joint Graduate Training Program.
Advisor: Prof. Li Li (NYU Shanghai)

09/2018 – 06/2019 **Minor in Computer Science and Technology,** Nanchang University

09/2016 – 06/2020 ***B.S.*, Applied Psychology**, Nanchang University (*Outstanding Graduates*)

Research Experience

Ph.D. Research Projects

My doctoral research investigates how recent sensory history shapes current perception, combining ***Psychophysics, eye-tracking, EEG, and computational modeling.***

i. Serial Dependence in Smooth Pursuit of Preadolescent Children and Adults (2021-2024)

- Used eye-tracking to investigate whether ocular tracking exhibit any serial dependence and the developmental aspects of the serial dependence.
- Presented at 2023 China Vision Science Conference (Talk, Zhejiang, China); Published in *IOVS* (2024).

ii. Temporal Dynamics of Serial Effects in Ocular Tracking (2023.10-)

- Used eye-tracking and computational modeling to investigate attraction–repulsion dynamics of previous information in ocular tracking.
- Presented at VSS 2024 (Talk, Florida, USA); Manuscript to be submitted.

iii. Neural Evidence of Serial Dependence in Ocular Tracking (2024.10-)

- Used EEG and eye-tracking to investigate how trial-history information is represented in visual cortical activity and modulated by alpha-band oscillations.
- Abstract to be presented at *SfN* 2025 (Poster, San Diego, USA); Manuscript to be submitted.

Supervised Graduate Research Projects

Center Bias in Forward and Backward Heading Perception (2024.9-)

- Used psychophysics and Bayesian modeling to investigate how locomotion experience shapes asymmetric priors in heading perception.
- Presented at 2025 China Experimental Psychology Conference (Talk, Chengdu, China).

- *Role*: Led project from inception, including experimental design, supervision of data collection, data analysis (e.g., psychometric fitting, modeling), and manuscript drafting.

Temporal Dynamics of Heading and Scene-Relative Object Motion Judgments (2024.2-)

- Used psychophysics to investigate how the precision of heading and scene-relative object motion judgments changes with optic flow duration.
- Presented at 2024 China Vision Science Conference (Poster, Guangzhou, China)
- *Role*: Led project from conception through execution: designed the experiment, supervised data collection and analysis, drafted the manuscript, and facilitated discussions on subsequent research directions.

Collaborative Projects

Visual Discomfort in Head-Mounted Displays (2021, Industry Collaboration)

- This research aims to examine and quantify how the viewing duration through a head mounted display (HMD) leads to visual discomfort.
- I contributed to programming (VR eye-tracking, vizard), data collection and data analysis

Brain Maturation and Development of Ocular Tracking in Children (2020-)

- This research aims to examine the development of ocular tracking ability (eye-tracking) and the brain structural (structural MRI) changes with age.
- I contributed to stimulus design and programming, data collection and data analysis.

Publications

Journal papers:

- **Hong, B**.$^{+}$, Chen, J.$^{+}$, Huang, W., & Li, L.* (2024). Serial Dependence in Smooth Pursuit Eye Movements of Preadolescent Children and Adults. *Investigative Ophthalmology & Visual Science, 65(14),* 37-37. https://doi.org/10.1167/iovs.65.14.37 (JCR Q1, *IF* = 5.0)
  Media coverage: "How Do Our Eyes Help Us Navigate? New Study Looks at Clever Brain 'Shortcut'"
- **Hong, B**., Zhang, L., & Sun, H.* (2019). Measurement of the Vertical Spatial Metaphor of Power Concepts Using the Implicit Relational Assessment Procedure. *Frontiers in Psychology*, *10*, 1422. https://doi.org/10.3389/fpsyg.2019.01422. (JCR Q2, *IF* = 2.9)
- Fan, X. R., Wang, Y. S., ... **Hong, B**., …& Zuo, X. N.* (2023). A longitudinal resource for population neuroscience of school-age children and adolescents in China. *Scientific data, 10(1),* 545. https://doi.org/10.1038/s41597-023-02377-8. (JCR Q1, *IF* = 6.9)

Manuscripts in Preparation / Under Review:

- **Hong, B**., Chen J., & Li, L.* (To be submitted). Neural evidence of serial dependence in ocular tracking.

- **Hong, B.**, Chen J., & Li, L.* (To be submitted). Temporal dynamics of serial effects in ocular tracking.
- **Hong, B.**[+], Zhou, Y.T.[+], Ji, Y.L., & Li, L.* (In preparation). A Bayesian account of asymmetric center bias in forward and backward heading perception.
- Ji, Y.L.[+], **Hong, B.**[+], & Li, L.* (In preparation). Temporal dynamics of judging heading and scene-relative object motion from optic flow.
- Huang, W.J.[+], Chen J.[+], **Hong, B.**, Wang, Y., S., Zuo, X., N.*, & Li, L.* (To be submitted). Investigating Brain Structural Correlates of Ocular Tracking in Preadolescent Children and Young Adults.

Selected Conference Presentations (Posters and slides available here)

Oral presentation

- **Hong, B.**, Zhou, Y.T., Ji, Y.L., & Li, L. (2025, June). Asymmetric center bias in heading judgments for forward and backward self-motion. Talk presented at the 2025 Annual Meeting of the General Psychology and Experimental Psychology of the Chinese Psychological Association, Chengdu, Sichuan, China.
- **Hong, B.**, Chen, J., & Li, L. (2024, May). Temporal dynamics of serial dependence in ocular tracking. Talk presented at the 2024 Annual Meeting of the Vision Sciences Society (VSS 2024), Florida, USA.
- **Hong, B.**, Huang, W.J., Li, E., Chen, J., & Li, L. (2023, August). Ocular tracking abilities in preadolescent children. Talk presented at the 5th China Vision Science Conference (CVSC2023), Wenzhou, Zhejiang, China.

Poster presentation

- **Hong, B.**, Chen, J., & Li, L. (2025, November). Neural evidence of serial dependence in ocular tracking. Poster presented at the 2025 Annual Meeting of Society for Neuroscience (*SfN* 2025), San Diego, USA.
- **Hong, B.**, Ji, Y.L., & Li, L. (2024, November). Effect of stimulus range on center bias in heading judgments from optic flow. Poster presented at the 6th China Vision Science Conference (CVSC2024), Guangzhou, Guangdong, China.
- **Hong, B.**, Huang, W. J., Li, E., Chen, J., & Li, L. (2023, April). Ocular tracking abilities in preadolescent children. Poster presented the 2023 Annual Meeting of the General Psychology and Experimental Psychology of the Chinese Psychological Association, Jinhua, Zhejiang, China.
- Ji, Y.L., **Hong, B.**, & Li, L. (2024, November). Temporal dynamics of judging heading and scene-relative object motion from optic flow. Poster presented at the 6th China Vision Science Conference (CVSC2024), Guangzhou, Guangdong, China.

- Shen, X., Lian, Y., **Hong, B.**, & Li, L. (2025 Nov). Distinct neural processing of real versus unreal optic flow in the human brain: Evidence from fMRI and EEG. Poster presented at the 2025 Annual Meeting of Society for Neuroscience (*SfN* 2025), San Diego, USA.
- Huang, W. J., **Hong, B**., Chen, J., & Li, L. (2024, October). Brain Structural Correlates of Ocular Tracking in Preadolescent Children and Young Adults. Poster presented at the 2024 Annual Meeting of Society for Neuroscience (*SfN* 2024), Chicago, USA.

Teaching & Service

Teaching Assistant: Perception and the Brain (NYU Shanghai, 2022, Spring).

Ad Hoc Reviewer: Psych Journal, Journal of Experimental Psychology: Human Perception and Performance, Neuroscience & Biobehavioral Reviews.

Academic Skills

Programming: MATLAB, Python

Statistical Tools: SPSS, JASP, R

Experimental Methods: Psychophysics (MATLAB PsychToolBox), Eye-tracking (Eyelink, VIVE pro eye), EEG (ERP, MVPA, IEM), Computational Modeling, MRI, Virtual reality (Vizard, Unity)

Honors and Awards

2025 Conference travel awards for *SfN* 2025, NYU Shanghai

2024 Outstanding Presentation Awards, East China Normal University

2024 Conference travel awards for VSS 2024, East China Normal University

2023 Academic scholarships, East China Normal University

2022 Excellence in Research Award, NYU Shanghai

2020 Research Award, Nanchang University

2020 Outstanding Graduates, Nanchang University

2019 First-Class Excellent Scholarship, Nanchang University