Bao Hong (Paul)

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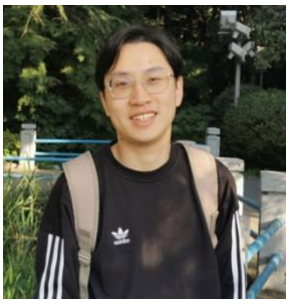

Education

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.***

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.

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.

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).

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.

- Abstract 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)

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;
  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
- 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.

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 (VSS2024), 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), Psychophysics (MATLAB PsychToolBox), Eye-tracking (Eyelink, VIVE pro eye), EEG, MRI, Virtual reality (Vizard, Unity), Data analysis (GLM, MVPA, IEM, Psychometric modeling, R/SPSS/JASP)

Honors and Awards

2025 Travel awards for *SfN* 2025, NYU Shanghai (USD 840)
2024 Outstanding Presentation Awards, ECNU
2024 Travel awards for *VSS* 2024, ECNU (USD 1400)
2023 Academic scholarships, ECNU (USD 2100)
2022 Excellence in Research Award, NYU Shanghai (USD 2100)
2020 Research Award, Nanchang University (USD 4200)
2019 Outstanding Graduates, Nanchang University