

# Hsing-Hao Lee Curriculum Vitae

## Contact Information

Department of Psychology, New York University

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## Education

2021 Sep. – 2026 May (expected) Ph.D., Psychology (Cognition and Perception)

2021 Sep. – 2025 May Master of Philosophy, Psychology

Department of Psychology, New York University, USA

Mentor: Dr. Marisa Carrasco

2017 Sep. – 2019 Jun. Master of Science, Psychology (GPA: 3.91/4.0)

Department of Psychology, National Taiwan University, Taiwan

Mentor: Dr. Su-Ling Yeh

2013 Sep. – 2017 Jun. Bachelor of Science, Psychology (GPA: 3.94/4.0)

Department of Psychology, National Cheng Kung University, Taiwan

Mentor: Dr. Shulan Hsieh

## Research Interests

1. **Attention:** How does visual attention modulate perception?
2. **Consciousness:** What are the differences between conscious and unconscious mental processes?
3. **Cognitive control:** How do people control and inhibit irrelevant information?

## Publications and Manuscripts

1. **Lee, H. H., & Carrasco, M.** (preprint). Polar angle asymmetries persist despite covert spatial attention and differential adaptation. *bioRxiv*.
2. **Lee, H. H., & Carrasco, M.** (2025). Visual adaptation stronger at horizontal than vertical meridian: Linking performance with V1 cortical surface area. *Proceedings of the National Academy of Sciences of the United States of America*, 122, (29) e2507810122.
3. **Lee, H. H.** (2025) Intrinsically photosensitive retinal ganglion cells and visual processing: ipRGCs beyond non-image-forming functions. *Frontiers in Neuroscience*, 19:1635101.
4. **Lee, H. H., Fernández, A., & Carrasco, M.** (2024). Adaptation and exogenous attention interact in the early visual cortex: A TMS study. *iScience*, 27(11), 111155.

5. **Lee, H. H.**, Groves, K., Ripollés, P., & Carrasco, M. (2024). Audiovisual integration in the McGurk effect is impervious to music training. *Scientific Reports*, 14, 3262.
6. **Lee, H. H.**, Liu, G. K., Chen, Y. C., & Yeh, S. L. (2024). Exploring quantitative measures in metacognition of emotion. *Scientific Reports*, 14, 1990.
7. Cheng, T., Chiu, L., Huang, L., Lin, Y. T., **Lee, H. H.**, Chen, Y. C., & Yeh, S. L. (2023). Predictive processing in the “Second Brain”: From gut complex to meta-awareness. In *Expected Experiences* (pp. 170-194). Routledge.
8. **Lee, H. H.**, Chien, S. E., Lin, V., & Yeh, S. L. (2022). Seeing food fast and slow: Arousing pictures and words have reverse priorities in assessing awareness. *Cognition*, 225, 105144.
9. Chen, Y. T., **Lee, H. H.**, Shih, C. Y., Chen, Z. L., Beh, W. K., Yeh, S. L., & Wu, A. Y. (2022). An effective entropy-assisted mind-wandering detection system with EEG signals of MM-SART Database. *IEEE Journal of Biomedical and Health Informatics*, 26(8), 3649-3660.
10. **Lee, H. H.**, Chen, Z. L., Yeh, S. L., Hsiao, J. H., & Wu, A. Y. (2021). When eyes wander around: Mind-wandering as revealed by eye movement analysis with hidden Markov models. *Sensors*, 21, 7569.
11. **Lee, H. H.**, Tu, Y. C., & Yeh, S. L. (2021) In search of blue-light effects on cognitive control. *Scientific Reports*, 11, 15505.
12. **Lee, H. H.**, & Yeh, S. L. (2021). Blue-light effects on saccadic eye movements and attentional disengagement. *Attention, Perception, & Psychophysics*. 83, 1713-1728.
13. Chien, S. E., Chu, L., **Lee, H. H.**, Yang, C. C., Lin, F. H., Yang, P. L., Wang, T. M., & Yeh, S. L. (2019). Age difference in perceived ease of use, curiosity, and implicit negative attitude toward robots. *ACM Transactions on Human-Robot Interaction (THRI)*, 8(2):9.
14. **Lee, H. H.**, & Hsieh, S. (2017). Resting-state fMRI associated with stop-signal task performance in healthy middle-aged and elderly people. *Frontiers in Psychology*, 8:766.

### **Manuscripts in preparation**

1. Yeh, S. L., Li, S. H., **Lee, H. H.**, Kao, Y. W., Goh, J. O. S., Jingling, L., & Tsai, A. C. H. (*under review*). Age-related differences in predicting apparent motion sequences: An fMRI study.
2. **Lee, H. H.**, Kao, Y. W., Goh, J. O. S., & Yeh, S. L. (*in preparation*). Age differences in neural processing of facial expression predictions.
3. Chen, Q., **Lee, H. H.**, Hoxha, K., Fernández, A., Hanning, N. M. & Carrasco, M. (*in preparation*). Does human right frontal eye field (rFEF+) play a critical role in exogenous attention? A TMS study.

### **Selected Conference Presentations**

1. Carrasco, M., Chen, Q., **Lee, H. H.**, Fernández, A., & Hanning N. (2025). *TMS to the prefrontal cortex disrupts endogenous, but not exogenous, attention*. Talk presented at the Annual Meeting of the European Conference on Visual Perception, Mainz, Germany.

2. **Lee, H. H., & Carrasco, M. (2025).** *Endogenous attention enhances contrast sensitivity similarly around cardinal meridians despite differential adaptation effects.* Poster presented at the Annual Meeting of the Vision Sciences Society, Tampa, FL.
3. Chen, Q., **Lee, H. H.,** Hoxha, K., Fernández, A., Hanning, N. M. & Carrasco, M. (2025). *Does human right frontal eye field (rFEF+) play a critical role in exogenous attention? A Transcranial Magnetic Stimulation (TMS) study.* Poster presented at the Annual Meeting of the Vision Sciences Society, Tampa, FL.
4. **Lee, H. H., & Carrasco, M. (2024).** *Visual adaptation is more pronounced at the horizontal than vertical meridian.* Poster presented at the Annual Meeting of the Vision Sciences Society, Tampa, FL.
5. **Lee, H. H.,** Fernández, A., & Carrasco, M. (2023). *Adaptation modulates the effect of covert exogenous attention in early visual cortex – A TMS study.* Poster presented at the Annual Meeting of the Vision Sciences Society, Tampa, FL.
6. **Lee, H. H.,** Liu, G. K., & Yeh, S. L. (2021) *I know I'm happy, and I'm right: Metacognition of emotion.* Poster presented at the Annual Meeting of European Conference on Visual Perception, Virtual Meeting.
7. Cheng, T., Chiu, L., Huang, L. T., Lin, Y. T., Chen, Y. C., **Lee, H. H.,** & Yeh, S. L. (2021) Metacognitive confidence in perception, interoception, and memory. Poster presented at the Conference of Metacognition: New developments and challenges, Virtual Meeting.
8. **Lee, H. H.,** Chien, S. E., Lin, V., & Yeh, S. L. (2021). *Which comes first? Examining breaking continuous flash suppression time of high-calorie and low-calorie foods.* Poster presented at the Annual Meeting of the Vision Sciences Society, Virtual meeting.
9. Chen, Z. L., **Lee, H. H.,** Chen, Y. T., Wu, A. Y., & Yeh, S. L. (2021). *The mind's eye: Mind-wandering revealed by eye movement hidden Markov model.* Poster presented at the Annual Meeting of the Vision Sciences Society, Virtual meeting.
10. Kao, Y. W., **Lee, H. H.,** Goh, J. O. S., & Yeh, S. L. (2020). *Age-related differences in the statistical regularity of emotional faces.* Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, Virtual meeting.
11. **Lee, H. H.,** Shih, C. Y., Chen, Z. L., Wu, A. Y., & Yeh, S. L. (2019). *Are you concentrating or mind-wandering? Electroencephalogram signals reveal differences in attentional states.* Poster presented at the Annual Meeting of the Society for Neuroscience, Chicago, IL.
12. **Lee, H. H. & Yeh, S. L. (2019).** *Blue-light effects on the gap effect.* Poster presented at the Annual Meeting of the Vision Sciences Society, Tampa, FL.
13. **Lee, H. H.,** Chen, Z. L., Chen, Y. T., Shih, C. Y., Beh, W. K., Wu, A. Y., & Yeh, S. L. (2019). *The heart never lies: Heart rate variability as an index of sustained attention.* Poster presented at the National Taiwan University-Kyoto University International Symposium for Cognitive Neuroscience, Taipei, Taiwan.

14. **Lee, H. H.**, Lin, F. H., Chien, S. E., & Yeh, S. L. (2018). *Food information processed unconsciously under continuous flash suppression*. Oral presentation at the Joint Conference of National Taiwan University, Peking University, and Chinese University of Hong Kong, Hong Kong.
15. **Lee, H. H.** & Hsieh S. (2017). *The aging effect on time perception: An ERP study*. Poster presented at the 13th Asia Pacific Conference on Vision, Tainan, Taiwan.
16. **Lee, H. H.** & Hsieh S. (2016). *The relation between resting-state fMRI and stop-signal task performance in healthy middle-aged and elderly people*. Poster presented at the 55th Annual Taiwan Psychology Association Meeting, Tainan, Taiwan.

## Research Experience

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|-------------|--|
| 2021 –      | <b>Doctorate Student in Carrasco Lab</b><br>Department of Psychology, New York University<br>Principal Investigator: Dr. Marisa Carrasco<br><i>Duties:</i> Designed, collected and analyzed psychophysics, TMS, and fMRI experiments   |
| 2017 – 2021 | <b>Master's Student and Research Assistant in EPA (Explorer of Perception and Attention) Lab</b><br>Department of Psychology, National Taiwan University<br>Principal Investigator: Dr. Su-Ling Yeh<br><i>Duties:</i> Designed, collected and analyzed eye-tracking, fMRI, EEG, and behavioral experiments |
| 2016 – 2017 | <b>Research Assistant in CASE (Control, Aging, Sleep, and Emotion) Lab</b><br>Department of Psychology, National Cheng Kung University<br>Principal Investigator: Dr. Shulan Hsieh<br><i>Duties:</i> Collected and analyzed EEG, fMRI, and behavioral data from older adults                               |

## Awards and Honors

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|-------------|--|
| 2025 – 2026 | <b>Taiwanese Overseas Pioneers Grant</b><br>Issued by National Science and Technology Council (NSTC), Taiwan<br><i>PhD Candidate in Social Sciences</i>        |
| 2025        | <b>Ted Coons Graduate Student Travel Award</b><br>Issued by Department of Psychology, New York University, USA<br><i>Vision Sciences Society, Florida, USA</i> |
| 2023        | <b>Graduate School of Arts and Science Dean's Conference Fund</b><br>Issued by New York University, USA<br><i>Vision Sciences Society, Florida, USA</i>        |
| 2021 – 2025 | <b>Taiwan's Government Fellowship for Studying Ph.D. Abroad</b><br>Issued by Ministry of Education, Taiwan<br><i>Area: Cognitive Neuroscience</i>              |

- 2019                    **College of Science Student Travel Award**  
 Issued by National Taiwan University  
*Summer School Program at University of California, Berkeley, USA*
- 2019                    **Scholarship for Students Attending International Academic Conferences**  
 Issued by Ministry of Science and Technology, Taiwan  
*Vision Sciences Society, Florida, USA*
- 2017                    **Scholarship for Students Attending International Academic Conferences**  
 Issued by National Cheng Kung University  
*Asia-Pacific Conference on Vision, Tainan, Taiwan*
- 2016                    **College Student Research Scholarship**  
 Issued by Ministry of Science and Technology, Taiwan
- 2013 – 2016           **Academic Excellence Awards (awarded every school year)**  
 Issued by Department of Psychology, National Cheng Kung University  
*Top 5% GPA among the school year in Psychology Department*

## Teaching Experience

- 2025    Fall            TA for Undergraduate *Cognition*, New York University
- 2025    Summer        Instructor for Undergraduate *Cognition*, New York University
- 2025    Spring            TA for Undergraduate *Perception*, New York University
- 2024    Fall                TA for Undergraduate *Perception*, New York University
- 2024    Summer        Instructor for Undergraduate *Perception*, New York University
- 2024    Spring            TA for Undergraduate *Perception*, New York University
- 2023    Fall                TA for Graduate *Perception*, New York University
- 2019    Spring            TA for *Seminar in Graduate Institute of Psychology*, National Taiwan University
- 2018    Fall                TA for *Introduction to Psychology*, National Taiwan University
- 2017 – 2018        TA for *Statistics in Psychology and Education*, National Taiwan University
- 2017    Spring            TA for *Cognitive Psychology*, National Cheng Kung University

## Graduate Course work

- 2024    Fall                Area Seminar: Perception & Attention
- 2023    Fall                Psychophysics
- 2023    Spring            Computational Cognitive Modeling
- 2023    Spring            Learning and Memory
- 2022    Fall                Mathematical Tools for Simulation and Data Analysis
- 2022    Spring            Functional Magnetic Resonance Imaging (fMRI) Lab
- 2022    Spring            Behavioral and Cognitive Neuroscience
- 2021    Fall                Perception
- 2021    Fall                Mathematical Tools for Neural and Cognitive Science

## **Ad-hoc Reviewer**

*Acta Psychologica, Cognition, Frontiers in Human Neuroscience, Frontiers in Psychology, IEICE Transactions on Information and Systems, Neuroscience of Consciousness, PloS One, Scientific Reports*

## **Professional Affiliations**

Asian-Pacific Conference on Vision (APCV), Cognitive Neuroscience Society (CNS), European Conference on Visual Perception (ECVP), Taiwanese Psychological Association (TPA), Society for Neuroscience (SfN), Vision Sciences Society (VSS),

## **Technical Expertise**

R, MATLAB, Python, EEG (Neuroscan), fMRI (certified operator for Siemens Allegra 3T), Eye-tracker (EyeLink, Tobii), TMS (Brainsight, Magstim, MagVenture), Four-mirror stereoscope