Jongmin Moon

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RESEARCH KEYWORDS

Computational Neuroscience · Systems Neuroscience · Vision · Decision Making · Neural Coding

APPOINTMENTS

2024 – present	**Postdoctoral Fellow** Center for Perceptual Systems The University of Texas at Austin, Austin, TX, United States • Advisor: Robbe L. T. Goris

EDUCATION

2018 – 2024	**Ph.D.**, Biomedical Engineering Ulsan National Institute of Science and Technology, Ulsan, South Korea • Advisor: Oh-Sang Kwon • Thesis: *Common computational principles underlying biases in visual perception, memory and confidence*
2012 – 2018	**B.S.**, Human Factors Engineering; System Design and Control Engineering Ulsan National Institute of Science and Technology, Ulsan, South Korea • Compulsory military service (2013 – 2015)

PUBLICATIONS (*equal contribution; mentee collaborators)

Peer-Reviewed Journal Articles

1. Saftari, L. N.*, **Moon**, **J.***, & Kwon, O.-S. (2025). Environmental motion presented ahead of self-motion modulates heading direction estimation. *PLOS Computational Biology*, *21*(10), e1013571.

2. **Moon**, **J.**, Tadin, D.*, & Kwon, O.-S.* (2023). A key role of orientation in the coding of visual motion direction. *Psychonomic Bulletin & Review*, *30*(2), 564–574.

3. **Moon**, **J.**, & Kwon, O.-S. (2022). Attractive and repulsive effects of sensory history concurrently shape visual perception. *BMC Biology*, *20*, 247.

4. **Moon**, **J.***, Choe, S.*, Lee, S., & Kwon, O.-S. (2019). Temporal dynamics of visual attention allocation. *Scientific Reports*, *9*, 3664.

Manuscripts Under Review or In Preparation

5. **Moon**, **J.**, Chung, D., Kim, H. J., Sul, S., & Kwon, O.-S. (under review). Rational confidence judgments in optimal and suboptimal perceptual estimations.

6. **Moon**, **J.**, Yoon, H., & Kwon, O.-S. (in preparation). A behavioral signature of efficient coding in working memory representations.

CONFERENCE PRESENTATIONS

1. **Moon**, **J**., Boundy-Singer, Z. M., Charlton, J. A., & Goris, R. L. T. (2026, May 15–19). *How history manifests in the macaque cortical hierarchy*. [Talk session] Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

2. Ranjan, A., **Moon**, **J**., & Goris, R. L. T. (2026, May 15–19). *Confidence in perceptual estimates reveals that sensory noise is doubly stochastic*. [Poster session] Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

3. Gunniya Prakash, A. R., **Moon**, **J**., & Goris, R. L. T. (2026, May 15–19). *Perceptual confidence seems blind to prior information*. [Poster session] Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

4. Yoon, H., **Moon**, **J**., & Kwon, O.-S. (2025, May 16–20). *Attractive serial dependence occurs after motion repulsion*. [Poster session]. Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

5. **Moon**, **J**., Gunniya Prakash, A. R., & Goris, R. L. T. (2025, April 25–27). *Bayesian confidence paradox*. [Poster session]. Workshop on Natural Environments, Tasks, and Intelligence (NETI), Austin, TX, United States.

6. **Moon**, **J**., Yoon, H., & Kwon, O.-S. (2024, May 17–22). *Probing bidirectional serial dependence in an N-back orientation estimation task*. [Talk session]. Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

7. **Moon**, **J**., Saftari, L. N., & Kwon, O.-S. (2023, August 24–27). *Environmental motion presented ahead of self-motion modulates the heading direction estimation*. [Poster session]. Conference on Cognitive Computational Neuroscience (CCN), Oxford, United Kingdom.

8. Saftari, L. N., **Moon**, **J**., & Kwon, O.-S. (2023, May 19–24). *Synchronicity of visual and vestibular signals modulates the causal inference in heading direction estimation*. [Poster session]. Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

9. **Moon**, **J**., & Kwon, O.-S. (2022, May 13–18). *Confidence in perceptual estimation reflects behavioral variability, but not biases*. [Poster session]. Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

10. **Moon**, **J**., & Kwon, O.-S. (2020, June 19–24). *Motion perception is biased toward the orientation, not the direction, of the preceding motion*. [Poster session]. Vision Sciences Society (VSS) Annual Meeting, virtual.

11. **Moon**, **J**., & Kwon, O.-S. (2019, May 17–22). *Additivity of attractive and repulsive sequential effects in motion direction estimation*. [Talk session]. Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

12. Choe, S., **Moon**, **J**., & Kwon, O.-S. (2018, May 18–23). *Temporal dynamics of visual attention allocation*. [Poster session]. Vision Sciences Society (VSS) Annual Meeting, St. Pete Beach, FL, United States.

Domestic Conference Presentations

13. Yoon, H., **Moon**, **J**., & Kwon, O.-S. (2026, January 21–23). *Sequential effects of suppressed stimuli in motion direction perception*. [Poster session]. 63rd Annual Meeting of the Korean Society of Cognitive and Biological Psychology, Seoul, South Korea.

14. Yoon, H., **Moon**, **J**., & Kwon, O.-S. (2025, February 12–14). *Attractive serial dependence occurs after motion repulsion*. [Poster session]. 62nd Annual Meeting of the Korean Society of Cognitive and Biological Psychology, Gwangju, South Korea.

15. **Moon**, **J**., Yoon, H., & Kwon, O.-S. (2024, February 1–3). *Probing bidirectional serial dependence in an N-back orientation estimation task*. [Talk session]. 61st Annual Meeting of the Korean Society of Cognitive and Biological Psychology, Seoul, South Korea.

16. **Moon**, **J**., Saftari, L. N., & Kwon, O.-S. (2023, February 16–17). *An environmental motion presented ahead of body motion modulates the causal inference in heading direction estimation.* [Talk session]. 60th Annual Meeting of the Korean Society of Cognitive and Biological Psychology, Seoul, South Korea.

17. **Moon**, **J**., & Kwon, O.-S. (2021, July 15–16). *The effects of behavioral variability and biases on confidence in perceptual estimation.* [Talk session]. 58th Annual Meeting of the Korean Society of Cognitive and Biological Psychology, virtual.

18. **Moon**, **J**., & Kwon, O.-S. (2020, August 27–28). *A key role of non-directional orientation in the coding of visual motion direction.* [Talk session]. 57th Annual Meeting of the Korean Society of Cognitive and Biological Psychology, virtual.

19. **Moon**, **J**., & Kwon, O.-S. (2019, February 14–15). *Sequential effects in motion direction estimation.* [Talk session]. 56th Annual Meeting of the Korean Society of Cognitive and Biological Psychology, Pyeongchang, South Korea.

20. Choe, S., **Moon**, **J**., & Kwon, O.-S. (2018, January 25–26). *Temporal dynamics of visual attention.* [Poster session]. 55th Annual Meeting of the Korean Society of Cognitive and Biological Psychology, Suwon, South Korea.

HONORS AND AWARDS

2021, 22, 24	Best Oral Presentation Award	Korean Society of Cognitive and Biological Psychology
2024	Data Challenge Award	Korean Society of Cognitive and Biological Psychology
2022	CSHL Course Award ($1,500)	Howard Hughes Medical Institute
2018 – 2024	UNIST Graduate Scholarship	Ulsan National Institute of Science and Technology
2016	Samsung Dream Class Scholarship	Samsung Welfare Foundation
2012	UNIST Dream Scholarship	Ulsan National Institute of Science and Technology
2012 – 2018	UNIST Undergraduate Scholarship	Ulsan National Institute of Science and Technology

SUMMER COURSES

2022	Computational Neuroscience: Vision	Cold Spring Harbor Laboratory
2021	Deep Learning	Neuromatch Academy

TEACHING

Guest Lectures

2026	Neural and Computational Basis of Vision	Depts. of Psychology and Neuroscience, UT Austin
2025	INP Bootcamp	Interdisciplinary Neuroscience Program, UT Austin

Teaching Assistant

2019, 20, 23	Experimental Design	Department of Biomedical Engineering, UNIST
2019, 20, 22	Sensation and Perception	Department of Biomedical Engineering, UNIST
2017 – 2018	Science of Human Behavior	School of Liberal Arts, UNIST

Educational Outreach

2016	World Friends Korea IT (in Ghana)	National Information Society Agency
2016	Samsung Dream Class	Samsung Welfare Foundation
2014	Educational Outreach Program	ROK Air Force Education & Training Command

MENTORING

UT Austin

2024 –	Tien Dung Nguyen	Ph.D. student in Neuroscience
2024 –	Avinash Ranjan	Ph.D. student in Neuroscience
2024 –	Akash Raj Gunniya Prakash	Ph.D. student in Psychology

UNIST

2023 – 2024	Hoyeon Yoon	M.S. student in Biomedical Engineering

SERVICE

Departmental service

2024 –	CPS Colloquium Coordinator	Center for Perceptual Systems, UT Austin

Ad Hoc Reviewer – Journals

BMC Biology
eLife
Journal of Vision
Nature Communications
Psychological Research
STAR Protocols

Ad Hoc Reviewer – Conferences

Cognitive Computational Neuroscience (CCN)

REFERENCES

Robbe L. T. Goris, Ph.D.
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