Sep 2024

Jongmin Moon

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Research Keywords

Computational Neuroscience | Systems Neuroscience | Vision | Decision-making | Probabilistic Models

Professional Appointments

2024 – **present** Postdoctoral fellow (Advisor: Robbe L. T. Goris)
Center for Perceptual Systems, The University of Texas at Austin, TX, USA

Education

2024 Ph.D., Biomedical Engineering (Advisor: Oh-Sang Kwon)
Ulsan National Institute of Science and Technology, South Korea

2022 Computational Neuroscience: Vision
Cold Spring Harbor Laboratory, NY, USA

2021 Neuromatch Academy: Deep Learning

2018 B.S., Human Factors Engineering
Ulsan National Institute of Science and Technology, South Korea

Publications

[#]co-first author; [*]co-senior author

Jongmin Moon, Duje Tadin* & Oh-Sang Kwon* (2023). A key role of orientation in the coding of visual motion direction. *Psychonomic Bulletin & Review*, 30:564–574. https://doi.org/10.3758/s13423-022-02181-2

Jongmin Moon & Oh-Sang Kwon (2022). Attractive and repulsive effects of sensory history concurrently shape visual perception. *BMC Biology*, 20:247. https://doi.org/10.1186/s12915-022-01444-7

Jongmin Moon[#], Seonggyu Choe[#], Seul Lee & Oh-Sang Kwon (2019). Temporal dynamics of visual attention allocation. *Scientific Reports*, 9:3664. https://doi.org/10.1038/s41598-019-40281-7

Manuscript in Preparation

Jongmin Moon, Dongil Chung, Hyo Jung Kim, Sunhae Sul & Oh-Sang Kwon (in preparation). Optimal confidence judgments in perceptual estimations.

Jongmin Moon, Hoyeon Yoon & Oh-Sang Kwon (in preparation). A behavioral signature of efficient coding in working memory representations.

Liana N. Saftari[#], **Jongmin Moon**[#] & Oh-Sang Kwon (in preparation). Environmental motion presented ahead of self-motion modulates heading direction estimation.

CONFERENCE PRESENTATIONS

Jongmin Moon, Hoyeon Yoon & Oh-Sang Kwon. Probing bidirectional serial dependence in an N-back orientation estimation task. *Vision Sciences Society Annual Meeting*, St. Pete Beach, FL, USA, May 17–22, 2024, Talk presentation.

Jongmin Moon, Liana Nafisa Saftari & Oh-Sang Kwon. Environmental motion presented ahead of self-motion modulates the heading direction estimation. *Conference on Cognitive Computational Neuroscience (CCN)*, Oxford, UK, August 24–27, 2023, Poster presentation.

Liana Nafisa Saftari, **Jongmin Moon** & Oh-Sang Kwon. Synchronicity of visual and vestibular signals modulates the causal inference in heading direction estimation. *Vision Sciences Society Annual Meeting*, St. Pete Beach, FL, USA, May 19–24, 2023, Poster presentation.

Jongmin Moon & Oh-Sang Kwon. Confidence in perceptual estimation reflects behavioral variability, but not biases. *Vision Sciences Society Annual Meeting*, St. Pete Beach, FL, USA, May 13–18, 2022, Poster presentation.

Jongmin Moon & Oh-Sang Kwon. Motion perception is biased toward the orientation, not the direction, of the preceding motion. *Vision Sciences Society Annual Meeting*, Online, June 19–24, 2020, Poster presentation.

Jongmin Moon & Oh-Sang Kwon. Additivity of attractive and repulsive sequential effects in motion direction estimation. *Vision Sciences Society Annual Meeting*, St. Pete Beach, FL, USA, May 17–22, 2019, Talk presentation.

Seonggyu Choe, **Jongmin Moon** & Oh-Sang Kwon. Temporal dynamics of visual attention allocation. *Vision Sciences Society Annual Meeting*, St. Pete Beach, FL, USA, May 18–23, 2018, Poster presentation

DOMESTIC CONFERENCE PRESENTATIONS

Jongmin Moon, Hoyeon Yoon & Oh-Sang Kwon. Probing bidirectional serial dependence in an N-back orientation estimation task. *Korean Society of Cognitive and Biological Psychology*, Seoul, South Korea, February 1–3, 2024, Talk presentation.

Jongmin Moon, Liana Nafisa Saftari & Oh-Sang Kwon. An environmental motion presented ahead of body motion modulates the causal inference in heading direction estimation. *Korean Society of Cognitive and Biological Psychology*, Seoul, South Korea, February 16–17, 2023, Talk presentation.

Jongmin Moon & Oh-Sang Kwon. The effects of behavioral variability and biases on confidence in perceptual estimation. *Korean Society of Cognitive and Biological Psychology*, Online, July 15–16, 2021, Talk presentation.

Jongmin Moon & Oh-Sang Kwon. A key role of non-directional orientation in the coding of visual motion direction. *Korean Society of Cognitive and Biological Psychology*, Online, August 27–28, 2020, Talk presentation.

Jongmin Moon & Oh-Sang Kwon. Sequential effects in motion direction estimation. *Korean Society of Cognitive and Biological Psychology*, Pyeongchang, South Korea, February 14–15, 2019, Talk presentation.

Seonggyu Choe, **Jongmin Moon** & Oh-Sang Kwon. Temporal dynamics of visual attention. *Korean Society of Cognitive and Biological Psychology*, Suwon, South Korea, February 1–2, 2018, Poster presentation.

AWARDS AND HONORS

2024	Best presentation award, Korean Society of Cognitive and Biological Psychology
2024	2nd place in Data Challenge, Korean Society of Cognitive and Biological Psychology
2023	Best presentation award, Korean Society of Cognitive and Biological Psychology
2022	CSHL course award ($1,500), Howard Hughes Medical Institute
2021	Best presentation award, Korean Society of Cognitive and Biological Psychology
2018	Best poster award, Korean Society of Cognitive and Biological Psychology
2018 – present	UNIST Graduate Scholarship (full tuition scholarship), UNIST
2012 – 2018	UNIST Undergraduate Scholarship (full tuition scholarship), UNIST

TEACHING EXPERIENCE

Teaching Assistant

2019 – 2023	BME310 Experimental Design, Department of Biomedical Engineering, UNIST
2019 – 2022	BME308 Sensation and Perception, Department of Biomedical Engineering, UNIST
2017 – 2018	SLA171 Science of Human Behavior, School of Liberal Arts, UNIST

Others

2016	IT Instructor (dispatched to Ghana) World Friends ICT Volunteer Program, National Information Society Agency
2016	Mentor Samsung Dream Class Mentoring Program, Samsung Welfare Foundation
2013 – 2015	Assistant Drill Instructor, Republic of Korea Air Force (compulsory military service)
2014	Mentor Education Volunteers Program for Underprivileged Students, Republic of Korea Air Force

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Skills

- Programming: MATLAB, R, Python, etc.
- Modeling: Probabilistic models, hierarchical Bayesian parameter estimation (Stan, JAGS, etc.)
- Psychophysics (Psychophysics Toolbox)
- Eye tracking and pupillometry (EyeLink 1000 Plus)

References

Robbe L. T. Goris, Ph.D.
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Oh-Sang Kwon, Ph.D.
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