

NINGKAI WANG

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EDUCATION

Vrije Universiteit Amsterdam

Sep.2021 - Now

Ph.D. candidate of Cognitive Psychology

- **Supervisors:** Prof. dr. Jan Theeuwes & dr. Tomas Knapen
- **Research topics:** Visual cortex
7T fMRI
Attentional priority map
Divisive normalization

Hangzhou Normal University

Sep.2016 - Jun.2019

Master of Education (Psychology / Clinical Cognitive Neuroscience)

- **Supervisor:** Prof. dr. Jinhui Wang
- **Research topic:** Brain morphological network

Nanjing University of Chinese Medicine Hanlin College

Sep.2011 - Jun.2015

Bachelor of Science (Applied Psychology)

- **Supervisor:** dr. Jinghua Tang & dr. Xiaocong Zhang
- **Research topic:** The effect of time pressure on decision-making

WORK EXPERIENCE

South China Normal University

Sep.2019 - May.2021

Research assistant

- **PI:** Prof. dr. Jinhui Wang
- **Research topic:** Brain morphological network

SKILLS

Programming: Python and MATLAB
Software & Tools: **Data analysis:** Python and MATLAB
Data visualization: Python, MATLAB, Photoshop, and Circos
Experiment designing: Psychtoolbox-3 and OpenSesame
Others: CentOS

PROJECTS

- **Optimizing pRF Mapping Quality** *Feb.2026 - Now*
- **Revealing the hidden attentional priority map in reinforcement learning** *Sep.2025 - Now*
- **Arrow of time: A 7T movie-watching fMRI dataset** *Sep.2023 - Now*
- **Pinging the brain to reveal the hidden attentional priority map using fMRI** *Sep.2023 - 2025*
- **The role of expectations in visual spatial coding across the visual hierarchy** *Sep.2022 - Now*
- **Learning rapid sequence implicitly without stimulus-response rules** *Sep.2022 - 2023*
- **Brain morphological network in aging** *Jun.2017 - May.2021*
- **Test-retest reliability of brain morphological network** *Mar.2020 - May.2021*

PUBLICATIONS

Published Articles

1. **Wang, N.***, Wientjens, R., Heij, J., Hollander, G., Theeuwes, J., Knapen, T.*, 2026, Divisive normalization masquerades as predictive processing in visual cortex. *under review*.
2. van Moorselaar, D., **Wang, N.** and Theeuwes, J., 2025. Differential Neural Mechanisms Underlying Inhibition of Color and Dynamic Motion Distractors. *Journal of Cognitive Neuroscience*, pp.1-12. doi.org/10.1162/jocn_a_02287.
3. Ruan, J.#, **Wang, N.#**, Li, J., Wang, J., Zou, Q., Lv, Y., Zhang, H. and Wang, J.*, 2023. Single-subject cortical morphological brain networks across the adult lifespan. *Human Brain Mapping*, 44(16), pp.5429-5449. doi.org/10.1002/hbm.26450 (#Shared first authorship).
4. Li, Y.#, **Wang, N.#**, Wang, H., Lv, Y., Zou, Q. and Wang, J.*, 2021. Surface-based single-subject morphological brain networks: effects of morphological index, brain parcellation and similarity measure, sample size-varying stability and test-retest reliability. *Neuroimage*, p.118018. doi.org/10.1016/j.neuroimage.2021.118018 (#Shared first authorship).
5. Li, Z., Li, J., **Wang, N.**, Lv, Y., Zou, Q. and Wang, J.*, 2023. Single-subject cortical morphological brain networks: phenotypic associations and neurobiological substrates. *NeuroImage*, 283, p.120434. doi.org/10.1016/j.neuroimage.2023.120434.
6. Yin, G., Li, T., Jin, S., **Wang, N.**, Li, J., Wu, C., He, H. and Wang, J.*, 2023. A comprehensive evaluation of multicentric reliability of single-subject cortical morphological networks on traveling subjects. *Cerebral Cortex*, p.bhad178. doi.org/10.1093/cercor/bhad178.
7. Wu, Y., Zheng, Y., Li, J., Liu, Y., Liang, X., Chen, Y., Zhang, H., **Wang, N.**, Weng, X., Qiu, S.* and Wang, J.*, 2022. Subregion-specific, modality-dependent and timescale-sensitive hippocampal connectivity alterations in patients with first-episode, drug-naïve major depression disorder. *Journal of Affective Disorders*, 305, pp.159-172. doi.org/10.1016/j.jad.2022.02.052.
8. Guo, Z., Fan, C., Li, T., Gesang, L., Yin, W., **Wang, N.**, Weng, X., Gong, Q., Zhang, J. and Wang, J.*, 2020. Neural network correlates of high-altitude adaptive genetic variants in Tibetans: A pilot, exploratory study. *Human Brain Mapping*, 41(9), pp.2406-2430. doi.org/10.1002/hbm.24954.
9. Lv, Y., Wei, W., Han, X., Song, Y., Han, Y., Zhou, C., Zhou D., Zhang, F., Wu, X., Liu, J., Zhao, L., Zhang, C., **Wang, N.**, Wang, J.*, Multi-parametric and multilevel characterization of morphological alterations in patients with transient ischemic attack. *Human Brain Mapping*, 42(7), pp.2045-2060. doi.org/10.1002/hbm.25344.
10. Wang, J., Duan, Y., Zhang, T., Huang, J., Ren, Z., Ye, J., **Wang, N.**, Li, Y., Chen, X., Gao, P., Li, K. and Liu, Y.*, Aberrant multimodal brain networks in patients with anti-NMDA receptor encephalitis. *CNS Neuroscience & Therapeutics*, 27(6), pp.652-663. doi.org/10.1111/cns.13632.

TOOLBOX DEVELOPMENT

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| • SUNVS , | A Surface-based Brain Network Viewer Toolbox | - <i>Independent Developer</i> |
| | https://github.com/c14h19no2/SUNVS/ | |
| • GRETNA , | A Graph Theoretical Network Analysis Toolbox | - <i>Contributor</i> |
| | https://www.nitrc.org/projects/gretna/ | |

INVITED TALKS

1. **Wang, N.***, Wientjens, R., Heij, J., Hollander, G., Theeuwes, J., Knapen, T.*, 2025, Divisive normalization masquerades as predictive processing in visual cortex. *Symposium of the Netherlands Institute for Neuroscience, Netherlands* (20-min talk).

ACADEMIC CONFERENCES

1. **Wang, N.***, Wientjens, R., Heij, J., Hollander, G., Theeuwes, J., Knapen, T.*, 2025, Divisive normalization masquerades as predictive processing in visual cortex. *The 20th NVP Dutch Society for Brain and Cognition Winter Conference, Egmond aan Zee, Netherlands* (15-minute talk, talk session: Perception & Perceptual Integration).
2. **Wang, N.***, Wientjens, R., Heij, J., Hollander, G., Theeuwes, J., Knapen, T.*, 2025, Divisive normalization masquerades as predictive processing in visual cortex. *iBBA x ABC day, Amsterdam, Netherlands* (Poster session).
3. **Wang, N.**, Wientjens, R., Heij, J., Hollander, G., Theeuwes, J., Knapen, T.*, 2024, The Role of Expectations in Visual Spatial Coding across the Visual Hierarchy. *Vision Sciences Society, Florida, U.S.* (15-minute talk, talk session: Attention: Neural mechanisms).
4. **Wang, N.**, Knapen, T., Theeuwes, J., 2023, Humans Can Learn Rapid Sequence Implicitly Without Stimulus-Response Rules. *The 19th NVP Dutch Society for Brain and Cognition Winter Conference, Egmond aan Zee, Netherlands* (Poster session 1: 56)
5. **Wang, N.**, Knapen, T., Theeuwes, J., 2023, Location and Identity Prediction in Implicit Visual Sequence Learning: A Pilot Study. *Perception Day, Utrecht, Netherlands* (Poster session P1)
6. **Wang, N.**, Li, Y., Wang, H., Wang, J.*, 2018, Topological Changes of Morphological Brain Networks Across the Life Span. *ICMRI2018, Seoul, Korea* (8-minute oral presentation, SS01-12).
7. Lee, Y., Wang, H., **Wang, N.**, Wang, J.*, 2018, Comprehensive Evaluation of single-subject Morphological Brain networks in Brain surface space. *ICMRI2018, Seoul, Korea* (PP01-05).

PREREGISTRATION

1. **Wang, N.**, et al., 2025, Ocularity Singleton and Statistical Learning in Virtual Reality. *OSF Preregistration*. <https://osf.io/pbmd9/>