William Xiang Quan Ngiam

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Academic Employment

2024 – present   **Lecturer**
School of Psychology, *University of Adelaide*

2019 – 2024   **Postdoctoral Research Scholar**
University of Chicago (with Professors Edward Awh and Edward Vogel)

Education and Training

2015 – 2019   **Doctor of Philosophy** in Psychology
University of Sydney (Supervised by Professor Alex Holcombe)

2011 – 2014   **Bachelor of Psychology (Honours)**
University of Sydney (Supervised by Dr Patrick Goodbourn)

Research Experience

2017   **Statistical Assistant/Programmer**
University of Sydney Educational Innovation Grant; *Using interactive learning to integrate statistical theory with contemporary research practices*

2017 – 2018   **Research Assistant**
University of Sydney Faculty of Science Seed Funding; *The development of attentional control in children with and without anxiety*

Teaching Experience

2024, 2025   **Lecturer** in Perception and Cognition (3rd year psychology), *University of Adelaide*

2024, 2025   **Course Coordinator** for Research Project Planning, Managing and Analysing Data (Graduate Diploma Advanced in Psychology), *University of Adelaide*

2024, 2025   **Course Coordinator** for Applied Quantitative and Qualitative Methods (Graduate Diploma Advanced in Psychology), *University of Adelaide*

2024   **Course Coordinator** for Understanding and Synthesising Psychological Evidence (Graduate Diploma Advanced in Psychology), *University of Adelaide*

2018   **Lecturer (Summer School)** for Science and Statistics in Psychology - Introduction to Psychology, *University of Sydney*

2015 – 2018   **Tutor** for Statistics and Research Methods for Psychology (2nd year undergraduate psychology course), *University of Sydney*

2015, 2017   **Tutor** for Advanced Statistics for Psychology (3rd year undergraduate psychology course), *University of Sydney*

2016   **Tutor** for Research Methods in Honours Psychology (4th year Honours psychology course), *University of Sydney*

Service

2024 – present   **Open Practices Editor** of *Attention, Perception, & Psychophysics*.

2024 – present   **Founder and Organiser** of University of Adelaide *ReproducibiliTea*

2023 – 2025   **Organiser** of the Pre-data Poster Session at the *Vision Sciences Society* meeting.

2021– 2023   **Organiser** of the *Working Memory Symposium* conference.

2020 – 2024   **Founder and Organiser** of University of Chicago *ReproducibiliTea*

2021 – present	**Steering Committee** member of *ReproducibiliTea*
2022 – 2024	**Editor-in-Chief** of the *Journal for Reproducibility in Neuroscience*

Honours and Awards

2023	**Rigor Champions Prize** – *NINDS // National Institutes of Health (United States)*
2015 – 2019	**Research Training Program (RTP) Award** – *Australian Government Department of Education and Training*
2015 – 2019	**Academic Merit Award** – *University of Sydney*
2018	**School of Psychology Publication Prize** – University of Sydney
2017	**PsychFEST Award** for Excellent Presentation – *University of Sydney*
2016	**Endeavour Research Fellowship** – *Australian Government Department of Education and Training*
2014	**APS Prize** – *Australian Psychological Society*

Publications

Styrkowiec, P. P.*, **Ngiam, W. X. Q.***, Epstein, W., Gneezy, R., Jones, H. M., Awh, E., & Vogel, E. K. (2025). Item-based parsing of dynamic scenes in a combined attentional tracking and working memory task. *Journal of Cognitive Neuroscience*, 1-17. https://doi.org/10.1162/jocn.a.96

Jones, H.M., Diaz, G.K., **Ngiam, W.X.Q.,** Awh, E. (2024) Electroencephalogram decoding reveals distinct processes for directing spatial attention and encoding into working memory. *Psychological Science*. https://doi.org/10.1177/09567976241263002

Silverstein, P., Elman, C., ...**Ngiam, W.X.Q.** (2024). A guide for social science journal editors on easing into open science. *Research Integrity and Peer Review*. https://doi.org/10.1093/braincomms/fcae120

Brumback, A.C., **Ngiam, W.X.Q.**, Lapato, D.M. et al. (2024). Catalyzing communities of research rigour champions. *Brain Communications*. https://doi.org/10.1093/braincomms/fcae120

Ngiam, W.X.Q., Loetscher, K.B., Vogel, E.K., Awh, E. (2024). Object-based encoding constrains storage in visual working memory. *Journal of Experimental Psychology: General*. https://doi.org/10.1037/xge0001479

Ngiam, W.X.Q. (2024). Mapping visual working memory models to a theoretical framework. *Psychonomic Bulletin & Review*. https://doi.org/10.3758/s13423-023-02356-5

Ngiam, W.X.Q., Foster, J.J., Adam, K.C.S., Awh, E. (2023). Distinguishing guesses from fuzzy memories: Further evidence for item limits in visual working memory. *Attention, Perception, & Psychophysics*. https://doi.org/10.3758/s13414-022-02631-y

Ngiam, W.X.Q. (2021). Fully Credited: Making Publishing More Equitable. *APS Observer*, *35*.

Ngiam, W.X.Q., Adam, K.C.S., Quirk, C., Vogel, E.K., Awh, E. (2021). Estimating the statistical power to detect set size effects in contralateral delay activity. *Psychophsyiology, 58:e13791*. https://doi.org/10.1111/psyp.13791

Ngiam, W.X.Q., Brissenden, J.A., Awh, E. (2019) "Memory compression" effects in visual working memory are contingent on explicit long-term memory. *Journal of Experimental Psychology: General, 148(8), 1373*. https://doi.org/10.1037/xge0000649

Ngiam, W.X.Q., Khaw, K.L.C., Holcombe, A.O., Goodbourn, P.T. (2019). Visual working memory for letters varies with familiarity but not complexity. *Journal of Experimental Psychology: Learning, Memory and Cognition, 45(10), 1761-1775*. https://doi.org/10.1037/xlm0000682

Bateman, J.E., **Ngiam, W.X.Q,** Birney, D. P. (2018). Relational encoding in visual working memory: Change detection performance is better for violations in group relations. *PLOS ONE* 13(9): e0203848. https://doi.org/10.1371/journal.pone.0203848

Selected Conference Presentations

Talks

Item-based encoding in a combined attentional tracking and working memory task. (2025). *Australasian Experimental Psychology Conference*.

Proposing a lazy generalised model of visual working memory to promote theory-building. (2025). *Australasian Mathematical Psychology Conference*.

Multivariate decoding in a combined multiple-object tracking and working memory task. (2024). *Australasian Cognitive Neuroscience Society*.

Associative learning changes multivariate neural signatures of visual working memory (2024). *Vision Sciences Society*.

Object-based encoding in visual working memory (2022). *Object Perception, Attention and Memory 30*, satellite of the *Annual Meeting of the Psychonomic Society*.

A signature of guessing supports an item limit in visual working memory (2022). *Working Memory Symposium*.

Power for detecting the presence of set size differences in the contralateral delay activity. (2020). *Working Memory Symposium*.

Training recognition familiarity does not improve visual working memory performance. (2018) *45th Annual Conference of the Australasian Society for Experimental Psychology*.

Enhancing visual working memory performance using statistical regularities requires explicit awareness. (2017) *44th Annual Conference of the Australasian Society for Experimental Psychology,* Newcastle, Australia.

Posters

Associative learning changes multivariate neural signatures of working memory load. (2023) *Object, Perception, Attention and Memory*, San Francisco, United States.

Evidence for object-based encoding into visual working memory. (2022) *22nd Annual Meeting of the Vision Sciences Society*, Florida, United States.

Item-based storage limits revealed by whole-report for dual-feature stimuli. (2020) *61st Annual Meeting of the Psychonomic Society,* online.

Estimating the statistical power to detect set-size effects in the contralateral delay activity (2020). *Object, Perception, Attention and Memory,* online.

Object-based memories revealed by whole-report for dual-feature stimuli. (2020) *20th Annual Meeting of the Vision Sciences Society,* online.

"Memory compression" effects in visual working memory are contingent on explicit long-term memory. (2019) *60th Annual Meeting of the Psychonomic Society,* Montreal, Canada.

Examining the effects of memory compression with contralateral delay activity. (2019) *19th Annual Meeting of the Vision Sciences Society*, Florida, United States.

Training recognition familiarity is insufficient to improve visual working memory. (2018) *59th Annual Meeting of the Psychonomic Society,* New Orleans, United States.

Memory compression using statistical regularities requires explicit awareness. (2017) *17th Annual Meeting of the Vision Sciences Society*, Florida, United States.

Familiarity, but not visual complexity, affects letter encoding in visual working memory. (2016) *57th Annual Meeting of the Psychonomic Society*, Boston, United States.

Panels

Doing our part to change the culture of science: Becoming a champion for rigor. (2023). *Society for Neuroscience*.

Why does science need immediate and substantial reform? (2022). *Brazilian Congress of Pharmacology and Experimental Therapeutics*.

Best practices with preregistration (2022). *Open Science Workshop* at *22nd Annual Meeting of the Vision Science Society*

Open Science: a vision for a fair and equitable science. (2021). *Equity in Vision Science panel* at *Object Perception, Attention and Memory 29*.

Invited Talks

Mobilising open scholarship in psychology. (2025) *School of Psychology Colloquium, Flinders University*

Embracing open science as an early-career researcher. (2025) *PGR Career Series, University of Warwick*.

Empowering early-career researchers to enhance research culture with ReproducibiliTea. (2024) *Rigor and Reproducibility Seminar Series, University of Florida*

Multivariate decoding of visual attention and memory. (2024). *School of Psychology Colloquium, University of Sydney*.

Are scientists attending to the right things? (2024). *University of Texas Austin*.

Correcting bias in visual working memory researchers: Steps towards an integrative framework. (2023). *Ebbinghaus Empire Series, University of Toronto*.

Rethinking attention in visual working memory (and its researchers). (2023). *Neurocognition and Work Talk Series, Leibniz Research Centre for Working Environment and Human Factors*

Rethinking the theoretical foundation of visual working memory. (2023). *Visual Cognition seminar, University of California Davis*.

The whole-report on visual working memory. (2022). *Department of Psychology Colloquium, University of New South Wales*.

Improving your research with preregistration. (2022). *ReproducibiliTea, Campus Kulmbach at the University of Bayreuth*.

Give researchers the CRediT they deserve. (2022). *ReproducibiliTea, University of Frankfurt*.

Why Open Science should matter to every researcher today. (2021). *School Research Seminar, University of Newcastle Australia*.

An Introduction to Open Science. (2021). *ReproducibiliTea, University of Missouri*.

Journals Reviewed For

65 verified peer review records of 46 manuscripts.

Attention, Perception & Psychophysics
Current Psychology
eNeuro
Journal of Cognition
Journal of Cognitive Neuroscience
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Learning, Memory and Cognition
Journal of Experimental Psychology: Human Perception and Performance
Journal of Vision
Memory
Memory and Cognition
Nature Communications Psychology
Nature Scientific Reports
Neuroanatomy and Behaviour
Neuroimage

Peer Community in Registered Reports

PLoS Computational Biology

PLoS One

Proceedings of the National Academy of Sciences

Psychological Research

Psychological Science

Psychology, Health & Medicine

Psychonomic Bulletin & Review

Psychophysiology

Quarterly Journal of Experimental Psychology

Visual Cognition