

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 **Founder and Organiser** of University of Adelaide *ReproducibiliTea*
- 2023, 2024 **Organizer** of the Pre-data Poster Session at the *Vision Sciences Society* meeting.
- 2021– 2023 **Organizer** 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 <i>Department of Education and Training</i>
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. *Psychophysiology*, 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

Psychological Science; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory and Cognition; Journal of Experimental Psychology: Human Perception and Performance; Psychonomic Bulletin & Review; Attention, Perception & Psychophysics; Journal of Cognitive Neuroscience; Psychophysiology; Quarterly Journal of Experimental Psychology; Nature Scientific Reports; Nature Communications Psychology; Memory and Cognition; PLoS One; Psychological Research; Neuroanatomy and Behaviour; Neuroimage; eNeuro; Memory; Psychology, Health & Medicine; Visual Cognition; PLoS Computational Biology; Current Psychology; Peer Community in Registered Reports; Proceedings of the National Academy of Sciences; Journal of Vision; Journal of Cognition;