**William Xiang Quan Ngiam**

[wngiam@uchicago.edu](mailto:wngiam@uchicago.edu)

**Education and Training**

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

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**

2023 **Invited Lecturer** on working memory for Introduction to Learning and Memory, *University of Chicago*

2022 **Invited Lecturer** on the credibility revolution for Introduction to Social Psychology, *University of Chicago*

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**

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

2020 – present **Founder and Organizer** of the University of Chicago ReproducibiliTea Journal Club

2021 – present **Steering Committee** member of ReproducibiliTea

2022 – present **Editor-in-Chief** of the Journal for Reproducibility in Neuroscience

**Honours and Awards**

2022 **Research Rigor Champion** – *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**

**Ngiam, W.X.Q.,** Loetscher, K.B., Vogel, E.K., Awh, E. (2023). Object-based encoding constrains storage in visual working memory. *Journal of Experimental Psychology: General*. <https://doi.org/10.1037/xge0001479>

**Ngiam, W.X.Q.** (2023). 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. (2022). 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](https://doi.apa.org/doi/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>

Goodbourn, P.T., Livesey, E.J., **Ngiam, W.X.Q.**, Holcombe, A.O., Forte, J.D. (under review.). Learning new symbolic representations of number.

**Selected Conference Presentations**

***Talks***

**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**

**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*