Tianwei Gong

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Education & Professional Experience

2023– **UKRI EPSRC Postdoctoral Research Associate**.
Grant: Computational constructivism: the algorithmic basis of discovery
Supervisor: Dr. Neil R. Bramley & Dr. Christopher G. Lucas
University of Edinburgh, UK

2020–2023 **PhD in Cognitive Science**, *School of Philosophy, Psychology and Language Sciences*.
PhD thesis: Causal induction in time
Supervisor: Dr. Neil R. Bramley
University of Edinburgh, UK

2019–2020 **MRes in Psychology (w.distinction)**, *School of Philosophy, Psychology and Language Sciences*.
Supervisor: Dr. Neil R. Bramley
University of Edinburgh, UK

2014–2018 **BSc in Psychology**, *Faculty of Psychology*.
Beijing Normal University, China

2023 Jul **Barcelona Summer School for Advanced Modelling of Behavior in Neuroscience**.
Advanced techniques in model-based analysis of human and animal behavior (acceptance rate: 16%)
Centre de Recerca Matemàtica (Center for Mathematical Research), Spain

Journal Articles

2024 **Gong, T.**, & Bramley, N. R. (2024). Evidence from the future. *Journal of Experimental Psychology: General.* [Link]

Gong, T., Li, J., Yeung, J. Y., & Zhang, X. (2024). The association between course selection and academic performance: Exploring psychological interpretations. *Studies in Higher Education.* [Link]

2023 **Gong, T.**, & Bramley, N. R. (2023). Continuous time causal structure induction with prevention and generation. *Cognition*, *240*, 105530. [Link]

Gong, T., Gerstenberg, T., Mayrhofer, R., & Bramley, N. R. (2023). Active causal structure learning in continuous time. *Cognitive Psychology*, *140*(4), 101542. [Link]

Gong, T., Gao, X., & Jiang, T. (2023). FAB: A "dummy's" program for self-paced forward and backward reading. *Behavior Research Methods.* [Link]

2021 **Gong, T.**, Young, G. A., & Shtulman, A. (2021). The development of cognitive reflection in China. *Cognitive Science.*,*45*(4), e12966. [Link]

Gong, T., & Shtulman, A. (2021). The plausible impossible: Chinese adults hold graded notions of impossibility. *Journal of Cognition and Culture*,*21*(1-2), 76-93. [Link]

2020 Yu, S., Li, B., Zhang, M., **Gong, T.**, Li, X., Li, Z., ... & Chen, C. (2020). Automaticity in processing spatial-numerical associations: Evidence from a perceptual orientation judgment task of Arabic digits in frames. *PloS One*, *15*(2), e0229130. [Link]

2019 **Gong, T.*****, Li, B.*, Teng, L., Zhou, Z., Gao, X., & Jiang, T. (2019). The association between number magnitude and space is dependent on notation: Evidence from an adaptive perceptual orientation task. *Journal of Numerical Cognition*, *5*(1), 38-54. [Link]

2016 Zhang, M., Gao, X., Li, B., Yu, S., **Gong, T.**, Jiang, T., ... & Chen, Y. (2016). Spatial representation of ordinal information. *Frontiers in Psychology*, *7*, 505. [Link]

In prep **Gong, T.*****, Pacer, M.*, Griffiths, T., & Bramley, N. R. (in prep). Rational causal induction from time.

Peer-reviewed Conference Proceedings Articles

2023   **Gong, T.**, Zhao, B., McIntosh, R. D., & Lucas, C. G. (2023). Understanding spatial neglect: A Bayesian perspective. In *Proceedings of the Computational Cognitive Neuroscience Society Meeting 2023.* [Link]

        Gong, T., Zhao, B., McIntosh, R. D., & Lucas, C. G. (2023). A rational model of spatial neglect. In *Proceedings of the 45th Annual Meeting of the Cognitive Science Society.* [Link]

2022   **Gong, T.** & Bramley, N. R. (2022). Intuitions and perceptual constraints on causal learning from dynamics. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society.* [Link]

2021   **Gong, T.** & Bramley, N. R. (2021). Learning preventative and generative causal structures from point events in continuous time. In *Causal Inference & Machine Learning workshop at 35th Neural Information Processing Systems conference.* [Link]

2020   **Gong, T.** & Bramley, N. R. (2020). What you didn't see: Prevention and generation in continuous time causal induction. In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society.* [Link]

        Gong, T. & Shtulman, A. (2020). The plausible impossible: Graded notions of impossibility across cultures. In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society.* [Link]

submitted   **Gong, T.**, Valentin, S., Lucas, C. G., & Bramley, N. R. (submitted). Paradoxical parsimony: How latent complexity favors explanatory simplicity. Submitted to *Proceedings of the 46th Annual Meeting of the Cognitive Science Society.*

Conference Presentations

Aug 2023   *Understanding spatial neglect: A Bayesian perspective.* Talk presented at Computational Cognitive Neuroscience Society Meeting 2023 (acceptance rate: 4.5%), Oxford, UK.

Jul 2023   *A rational model of spatial neglect.* Talk presented at CogSci2023 (acceptance rate: 17.7%), Sydney, Australia (virtual attendance).

Jul 2022   *Intuitions and perceptual constraints on causal learning from dynamics.* Poster presented at CogSci2022 (acceptance rate: 71%), Toronto, Canada (virtual attendance).

Dec 2021   *Learning preventative and generative causal structures from point events in continuous time.* Poster presented at NeurIPS2021 (WHY21 Workshop, acceptance rate: 50%), virtually.

Jul 2020   *What you didn't see: Prevention and generation in continuous time causal induction.* Poster presented at CogSci2020 (acceptance rate: 63%), virtually.

Jul 2020   *The plausible impossible: Graded notions of impossibility across cultures.* Poster presented at CogSci2020 (acceptance rate: 63%), virtually.

May 2018   *Similarity-induced interference in sentence processing: the (missing) role of pragmatics.* Poster presented at APS2018, San Francisco, USA.

Invited Seminar Talks

Nov 2023   *How do we find causal structure in time.* Talk presented at London Judgment and Decision Making seminars, UCL, London, UK.

Nov 2023   *Continuous time causal structure induction with prevention and generation.* Talk presented at Causal Cognition lab, UCL, London, UK.

Mar 2023   *How people use time information to learn and reason about causal structure.* Talk presented at Edinburgh Scientific Researchers Association, University of Edinburgh, Edinburgh, UK.

Feb 2023   *How people use time information to learn and reason about causal structure.* Talk presented at Human Cognitive Neuropsychology seminar, University of Edinburgh, Edinburgh, UK.

Jul 2022   *Active causal structure learning in continuous time.* Talk presented at Edinburgh Computational CogSci Workshop, Edinburgh, UK.

Apr 2022   *Active causal structure learning in continuous time.* Talk presented at Computational Principles of Intelligence Lab, MPI for Biological Cybernetics, Tübingen, Germany, virtually.

Nov 2021	*Active causal structure learning in continuous time.* Talk presented at Human Cognitive Neuropsychology seminar, University of Edinburgh, Edinburgh, UK.
Feb 2017	*The association between number magnitude and space is dependent on notation.* Talk presented at Jing-Stevenson-Zhang research symposium, University of Michigan, Ann Arbor, USA.

Awards and Scholarships

2020–2023	School of PPLS PhD Scholarship, £17,668 annual stipend & tuition fee waiver, University of Edinburgh, UK (two positions for Psychology department each year, acceptance rate: 1.4%).
2020–2023	School of PPLS Research Support Grant, £1,000-2,000 per year, University of Edinburgh, UK.
2018	APS2018 Conference Travel Grant, $200, Association for Psychological Science, USA.
2018	Outstanding Undergraduate Student, ¥1,000, Beijing Municipal Education Commission, China.
2015–2017	Undergraduate Research Grants, ¥1,000-2,000 per year, Beijing Normal University, China.
2014–2017	Academic Scholarship, ¥3,000-5,000 per year, Beijing Normal University, China.

Pre-doctoral Research Experiences

2018–2019	**Post-baccalaureate Researcher**, *Occidental College, USA (remotely).* Supervisor: Dr. Andrew Shtulman Topics: Cognitive reflection, magic thinking, cross-cultural cognition
2018–2019	**Post-baccalaureate Researcher**, *Queensland University of Technology, Australia (remotely).* Supervisor: Dr. Xuefei Gao Topics: Language processing, perceptual simulation, psychological toolkit development
2016–2018	**Undergraduate Research Assistant**, *Beijing Normal University, China.* Supervisor: Dr. Jian Li Topics: Educational psychology, ecological measurement, game-based assessment
2015–2017	**Undergraduate Research Assistant**, *Beijing Normal University, China.* Supervisor: Dr. Ting Jiang Topics: Numerical cognition, mental number line, automatic processing

Teaching

School of Informatics, University of Edinburgh.

2023-2024	Lecturer & Course Organizer, Seminar in Cognitive Modelling, Master.
2022-2023	Teaching Assistant & Marker, Computational Cognitive Science, Year-3 undergraduate.
2020-2021	Marker, Introduction to Cognitive Science, Year-1 undergraduate.

Department of Psychology, University of Edinburgh.

2021-2023	Demonstrator & Marker, Univariate Statistics and Methodology using R, Master.
2021-2022	Demonstrator & Marker, Data Analysis for Psychology in R, Year-1 undergraduate.
2021-2022	Demonstrator & Marker, Introduction to Psychology, Year-2 undergraduate.
2020-2022	Teaching Assistant & Marker, Causal Cognition, Year-3 undergraduate.

Reviews

2024-	Developmental Psychology (1)
	Cognition (1)
2023-	Cognitive Psychology (1)
	Cognitive Computational Neuroscience Conference Proceedings (9)
2022-	Judgment and Decision Making (1)
	Journal of Experimental Psychology: Learning, Memory, and Cognition (1)
2021-	Cognitive Science Conference Proceedings (6)

Skills

Modelling/ Statistics	R, Python, MATLAB, Stan, SPSS, JASP, Jamovi
Experimentation	JavaScript, HTML, CSS, SQL, Psychtoolbox, Eye-link, Qualtrics, Mturk, Psiturk
Document Preparation	Jupyter, Markdown, RMarkdown, LaTeX
Languages	English (fluent), Chinese Mandarin (native), Japanese (basic)