

Mark Hurlstone

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Personal

Full name	Mark John Hurlstone
Date of birth	June 21, 1980
Nationality	British

Employment

<i>2013–Present</i>	Lecturer School of Psychology, University of Western Australia
<i>2012–2013</i>	Postdoctoral Research Associate (Stephan Lewandowsky & Carmen Lawrence) School of Psychology, University of Western Australia
<i>2010–2011</i>	Postdoctoral Research Associate (Robert Hughes & Dylan Jones) School of Psychology, University of Cardiff

Education

<i>2006–2010</i>	PhD Experimental Psychology School of Psychology, University of York <i>Thesis title:</i> The problem of serial order in visuospatial short-term memory <i>Supervisors:</i> Prof. Graham Hitch & Prof. Alan Baddeley
<i>2005–2006</i>	MSc Reading, Language, & Cognition School of Psychology, University of York
<i>2001–2004</i>	BSc (Hons.) Psychology School of Psychology, University of Leicester

Prizes and Awards

2015	School of Psychology, University of Western Australia <i>Research Funding Achievement Award (Early Career)</i>
2006	Department of Psychology, University of York <i>Department prize for highest scoring MSc student</i>
2004	School of Psychology, University of Leicester <i>Wladyslaw Sluckin prize for highest scoring BSc student</i>

Research Interests

<i>Auditory distraction</i>	Testing a duplex mechanism account of auditory distraction and attentional selectivity in which some forms of distraction are resistible and others are ineluctable.
<i>Behavioural economics</i>	Applying insights from laboratory experiments and psychology to economics, particularly the economics of climate change and other ecosystem issues.
<i>Cognitive modelling</i>	Computational and mathematical modelling of cognitive processes; model evaluation and selection issues; models of choice behaviour and response time.
<i>Human memory</i>	Short-term and long-term memory; serial recall memory; free recall memory; sequence learning; relationship between time and memory.

Competitive Grants

2016	Department of Agriculture and Food WA Biosecurity Research & Development Fund: Ben White & Mark Hurlstone: <i>Using economic experiments to demonstrate the principles of successful biosecurity cooperation to producers</i> (\$75,000).
2015	Australian Research Council Discovery Project: Simon Farrell, Gordon Brown, Geoff Ward, & Mark Hurlstone: <i>Developing a integrated memory-based model of evaluation and choice</i> (\$347,000).
2010	Department of Psychology, University of York: Graham Hitch, Mark Hurlstone, & Tom Hartley: <i>An oscillator model account of effects of the timing of items in short-term memory</i> (£2,500).

- 2008 Experimental Psychology Society (Study Visit Grant): Mark Hurlstone & Simon Farrell: *Modelling fill-in and in-fill errors: Constraints for theories of serial order memory* (£1,200).
- 2007 Nuffield Foundation (undergraduate science bursary): Mark Hurlstone & Graham Hitch: *Auditory distraction in verbal and spatial short-term memory* (£1,360).
- 2006 Economic and Social Research Council (1+3 postgraduate studentship): Mark Hurlstone: *Serial order in short-term memory*.

Publications

Peer Reviewed Manuscripts - in preparation

- Hurlstone, M. J.**, Thuijs, S., Rossen, I., & Ecker, U. (2018, in preparation). Crafting normative messages to promote childhood vaccination.
- Hurlstone, M. J.**, & Newell, B. R. (2018, in preparation). Threshold uncertainty, early-warning signals, and the prevention of dangerous climate change.
- Hurlstone, M. J.**, Price, A., Wang, S., Leviston, Z., & Walker, I. (2018, in preparation). Building affinity with future generations mitigates intergenerational discounting in the climate game.
- Hurlstone, M. J.**, White, B., McKie, G., & Tapsuwan, S. (2018, in preparation). The biosecurity game: A cooperation game for simulating the prevention of invasive pests.
- MacFarlane, D., **Hurlstone, M. J.**, & Ecker, U. K. H. (2018, in preparation). Reducing demand for unsupported health remedies: A taxonomy for overcoming psychological barriers.
- Hurlstone, M. J.**, & Wang, S. (2018, in preparation). Leadership attenuates, but does not eliminate, intergenerational discounting in the climate change game.
- Hurlstone, M. J.** (2018, in preparation). Organisational factors in spatial free recall: Interaction of temporal and spatial clustering.
- Hurlstone, M. J.**, Farrell, S., & Lewandowsky, S. (2018, in preparation). Modelling sequential dependencies in serial recall: Constraints for theories of serial order memory.
- Hurlstone, M. J.**, & Ecker, U. K. H., (2018, in preparation). Scientific certainty argumentation methods (SCAMs) and climate change: Exposing SCAMs shields against climate change misinformation.

Peer Reviewed Manuscripts - submitted

- Hurlstone, M. J.** (2018, in preparation). Modelling error patterns in verbal and spatial serial recall: Constraints for theories of short-term order memory.
- Andreotta, M., **Hurlstone, M. J.**, Paris, C., Boschetti, F., Farrell, S., Nugrobo, R., & Walker, I. (2018, submitted). Performing qualitative data analysis on social media data sets.
- Rossen, I., **Hurlstone, M. J.**, Dunlop, P., & Lawrence, C. (2018, in revision). Moral profiling of vaccination attitudes: Evidence for different vaccination belief types with different moral profiles.

Wang, S., **Hurlstone, M. J.**, Lawrence, C., Leviston, Z., & Walker, I. (2018, in revision). Climate change from a distance: Psychological distance and construal level as predictors of pro-environmental engagement.

Hurlstone, M. J. (2018, in revision). Modelling immediate serial spatial recall performance in a macaque (*Macaca mulatta*).

Quinlan, P., & **Hurlstone, M. J.** (2018, in revision). Semantic chunking effects in verbal short-term memory: Constraints for resource models of item storage.

Xie, B., **Hurlstone, M. J.**, & Walker, I. (2018, in revision). [Contribution to special issue on “The Cognitive Psychology of Climate Change”] Correct me if I’m wrong: A group decision-making intervention improves reasoning in the climate stabilization task.

Peer Reviewed Manuscripts - published

MacFarlane, D., **Hurlstone, M. J.**, & Ecker, U. K. H. (2018, in press). Contingency tables reduce demand for ineffective health products: Overcoming the illusion of causality. *Psychology & Health*. [IF = 2.23; N-Citations = 0; Top 20%]

Hurlstone, M. J. (2018, in press). Functional similarities and differences between the coding of positional information in verbal and spatial short-term memory. *Memory*. [IF = 2.12; N-Citations = 0]

Oberauer, K., Lewandowsky, S., Awh, E., Brown, G. D. A., Conway, A., Cowan, N., Donkin, C., Farrell, S., Hitch, G. J., **Hurlstone, M. J.**, Ma, Wei-Ji, Morey, C., Nee, D. E., Rouder, J., Schweppe, J., Vergauwe, E., & Ward, G. (2018, in press; *note*: order of authorship is alphabetical after first two authors). Benchmarks provide common ground for model development: Response to the commentaries of Logie and Vandierendonck. *Psychological Bulletin* [IF = 16.793; N-Citations = 0; Top 20%]

Oberauer, K., Lewandowsky, S., Awh, E., Brown, G. D. A., Conway, A., Cowan, N., Donkin, C., Farrell, S., Hitch, G. J., **Hurlstone, M. J.**, Ma, Wei-Ji, Morey, C., Nee, D. E., Rouder, J., Schweppe, J., Vergauwe, E., & Ward, G. (2018, in press; *note*: order of authorship is alphabetical after first two authors). Benchmarks for models of short-term and working memory. *Psychological Bulletin* [IF = 16.793; N-Citations = 0; Top 20%]

Wang, S., Leviston, Z., **Hurlstone, M. J.**, Lawrence, C., & Walker, I. (2018). Emotions predict policy support: Why it matters how people feel about climate change. *Global Environmental Change*, 50, 25-40. [IF = 6.327; N-Citations = 0; Top 20%]

Hurlstone, M. J., & Hitch, G. J. (2018). How is the serial order of a visual sequence represented? Insights from transposition latencies. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 44(2), 167-192. [IF = 2.86; N-Citations = 3]

Hurlstone, M. J., Wang, S., Price, A., Leviston, Z., & Walker, I. (2017). Cooperation studies of catastrophe avoidance: Implications for climate negotiations. *Climatic Change*, 140, 119-133. [IF = 3.34; N-Citations = 1; Top 20% in 2017]

Rossen, I., **Hurlstone, M. J.**, & Lawrence, C. (2016). Going with the grain of cognition: Applying insights from psychology to build support for childhood vaccination. *Frontiers in Psychology*, 7:1483. [IF = 2.46; N-Citations = 3]

Hartley, T., **Hurlstone, M. J.**, & Hitch, G. J. (2016). Effects of rhythm on memory for spoken sequences: A model and tests of its stimulus-driven mechanism. *Cognitive Psychology*, 87, 135-178. [IF = 4.54; N-Citations = 14; Top 20%]

Hurlstone, M. J., & Hitch, G. J. (2015). How is the serial order of a spatial sequence represented? Insights from transposition latencies. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 41, 295-324. [IF = 2.86; N-Citations = 14; Top 20% in 2015]

Hurlstone, M. J., Lewandowsky, S., Sewell, B., & Newell, B. (2014). The role of framing and normative messages in building support for climate policies. *PLoS ONE*. [IF = 3.23; N-Citations = 13; Top 20% in 2014]

Hurlstone, M. J., Hitch, G. J., & Baddeley, A. D. (2014). Memory for serial order across domains: An overview of the literature and directions for future research. *Psychological Bulletin*, 140, 339-373. [IF = 16.793; N-Citations = 138; Top 20%]

Unsworth, K. L., Russell, S. V., Lewandowsky, S., Lawrence, C., Fielding, K., Heath, J., Evans, A., **Hurlstone, M. J.**, & McNeill, I. (2013). Individual adaptation to climate change and psychological drivers: What about me? Factors affecting individual adaptive coping capacity across different population. *National Climate Change Adaptation Research Facility*. [IF = N/A; N-Citations = 1]

Farrell, S., **Hurlstone, M. J.**, & Lewandowsky, S. (2013). Sequential dependencies in recall of sequences: Filling in the blanks. *Memory & Cognition*, 41, 938-952. [IF = 2.46; N-Citations = 16]

Hughes, R., **Hurlstone, M. J.**, Marsh, J. E., Vachon, F., & Jones, D. M. (2013). Cognitive control of auditory distraction: Impact of task difficulty, foreknowledge, and working memory capacity supports duplex-mechanism. *Journal of Experimental Psychology: Human Perception and Performance*, 39, 539-553. [IF = 3.36; N-Citations = 90; Top 20% in 2013]

Hughes, R., Vachon, F., **Hurlstone, M. J.**, Marsh, J., Macken, W., & Jones, D. M. (2011). Disruption of cognitive performance by sound: Differentiating two forms of auditory distraction. In *Proceedings of the 10th International Congress on Noise as a Public Health Problem*. [IF = N/A; N-Citations = 7]

Theses

Hurlstone, M. J. (2010). *The problem of serial order in visuospatial short-term memory*. Unpublished PhD thesis, University of York, UK.

Hurlstone, M. J. (2006). *Top-down processing and temporal grouping in immediate serial recall*. Unpublished MSc thesis, University of York, UK.

Hurlstone, M. J. (2004). *The modularity of ordering processes in verbal and spatial short-term memory*. Unpublished BSc thesis, University of Leicester, UK.

Conference Papers

Hurlstone, M. J., & Newell, B. R. (April, 2018). Threshold uncertainty, early-warning signals, and the prevention of dangerous climate change. Experimental Psychology Conference, Hobart, Tasmania.

Hurlstone, M. J., Hartley, T., & Hitch, G. J. (July, 2016). Effects of rhythm on memory for spoken sequences: A model and tests of its stimulus-driven mechanism. Paper presented at the Sixth International Conference On Memory, Budapest, Hungary.

Hurlstone, M. J. (July, 2016). Modelling immediate serial spatial recall in a macaque (*Macaca mulatta*): A competitive queuing approach. Paper presented at the Sixth International Conference On Memory, Budapest, Hungary.

Hurlstone, M. J. (July 2015). Cooperation studies of catastrophe avoidance: Implications for climate negotiations. WSEN, Murdoch University WA, Australia.

Hurlstone, M. J., Lewandowsky, S., Newell, B. R., & Sewell, B. (Dec, 2013). Curbing emissions: Framing and normative messages influence CO₂ abatement policy preferences. University of New South Wales, Sydney NSW, Australia.

Hurlstone, M. J., & Lawrence, C. (July, 2012). The impact of normative feedback on pro-environmental intentions and behaviour. National Climate Change Adaptation Research Facility Conference, Melbourne, Australia.

Hurlstone, M. J., & Lewandowsky, S. (July, 2012). Climate change coping and the effects of social norms and message framing on those with extreme worldviews. National Climate Change Adaptation Research Facility Conference, Melbourne, Australia.

Hurlstone, M. J., Hughes, R., & Jones, D. M. (November, 2011). Auditory distraction: The resistible and the ineluctable. Auditory Perception, Cognition and Action Meeting, Seattle, USA.

Hurlstone, M. J. (July, 2011). Memory for serial order across domains: Four common principles. Paper presented at the Fifth International Conference On Memory, York, U.K.

Hurlstone, M. J., Hitch, G. J., & Baddeley, A. D. (July, 2009). Modelling grouping effects in verbal and spatial short-term order memory. Paper presented at the Experimental Psychology Society, York, U.K.

Hurlstone, M. J., Hitch, G. J., & Baddeley, A. D. (Jan, 2009). How is the serial order of a visuospatial sequence coded? Insights from transposition latencies. Paper presented at the Experimental Psychology Society, London, U.K.

Hartley, T., **Hurlstone, M. J.,** & Hitch, G. J. (July, 2008). An oscillator model account of effects of the timing of items in short-term memory. Paper presented at the XXIXth International Congress of Psychology, Berlin, Germany.

Invited colloquia & workshops

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| 2015, July. | Workshop: <i>Working memory benchmarks: Part II.</i> University of Zurich, Switzerland. |
| 2014, July. | Workshop: <i>Working memory benchmarks: Part I.</i> University of Zurich, Switzerland. |
| 2013, December. | Symposium: <i>Psychology and climate change.</i>
University of New South Wales, Sydney NSW, Australia. |

Manuscript Reviewing

I am an ad hoc reviewer for the following journals:

Acta Psychologica / *Canadian Journal of Experimental Psychology* / *Environment & Behavior* / *Frontiers in Psychology* / *Journal of Clinical and Experimental Neuropsychology* / *Journal of Experimental Psychology: General* / *Journal of Experimental Psychology: Learning, Memory, & Cognition* / *Journal of Mathematical Psychology* / *Journal of Memory and Language* / *Memory* / *Memory & Cognition* / *PLoS ONE* / *Psychological Bulletin* / *Psychological Science* / *Quarterly Journal of Experimental Psychology*.

Editorial Duties

Co-editor of special issue of the journal *Frontiers in Psychology* on “The Cognitive Psychology of Climate Change” (2018).

Grant Reviewing

Australian Research Council (Discovery, Linkage, DECRA)

Teaching

- 2017–current *Unit coordinator, PSYC3302: Psychological Measurement and its Application, School of Psychological Science, University of Western Australia.* This unit introduces students to the theoretical and practical underpinnings of psychological measurement. Topics covered include the theoretical and empirical bases of reliability and validity, classical and contemporary approaches to reliability and validity, test biases, responses biases, item response theory, state-trace analysis, and applications of psychological measurement to intelligence and personality testing. Teaching is by seminars (13×2 hours) and laboratory classes (13×2 hours). Evaluation is by class participation (5%), laboratory report (20%), SPSS Lab Exam (25%), and final exam (50%).
- 2016–current *Guest lecturer, PSYC2212 Psychology and Social Behaviour, School of Psychological Science, University of Western Australia.* This unit examines the factors that influence psychological functioning in a social environment. The unit considers some of the latest theories, research and applications in areas such as attitudes, stereotyping and prejudice, relationships, altruism and social groups. Teaching is by seminars (13×2 hours) and laboratory classes (5×2 hours). Evaluation is by laboratory class participation (10%), two laboratory reports (20% each), and final exam (50%). I delivered a guest lecture and laboratory class on the behavioural economics of human cooperation in 2016, and a further guest lecture on the behavioural economics of social preferences in 2018.
- 2012–current *Topic leader, PSYC3310: Specialist Topics in Psychology, School of Psychological Science, University of Western Australia.* This unit focuses on providing students with the opportunity to learn about and perform research in a specialist topic area of psychology. Teaching is by seminars (10×2 hours) and tutorials (10×2 hours) which are delivered to a small class of between 20–30 students. Evaluation is by small scale research project report (60%), research proposal (15%), ethics application (5%), class participation and informal group presentation (10%), and formal group presentation (10%). I have delivered topics in this unit spanning a wide range of areas including: Principles of Short-term and Episodic Memory, Psychology and Climate Change, Political Psychology, Behavioural Economics, and Behavioural Game Theory. From 2014–2016 I delivered two specialist topics in parallel with different groups of students.

Service

<i>2018–current</i>	Deputy Chair of External Colloquia Committee, School of Psychological Science, University of Western Australia
<i>2017–current</i>	Member of Undergraduate Education Committee, School of Psychological Science, University of Western Australia
<i>2016–2017</i>	Member of External Colloquia Committee & Deputy Chair of Ethics Committee, School of Psychological Science, University of Western Australia

Research Supervision

PhD Candidates:

<i>2017–Current</i>	Anthony Di Pietro (co-supervised with Simon Farrell)
<i>2016–Current</i>	Matthew Andreotta (co-supervised with Iain Walker & Fabio Boschetti) Georgiana Cheuck (co-supervised with Simon Farrell) Douglas McFarlane (co-supervised with Ullrich Ecker) Blake Cavve (co-supervised with Simon Farrell)
<i>2014–Current</i>	Susie Wang (co-supervised with Carmen Lawrence, Iain Walker, & Zoe Leviston)

Honours Supervision:

2018	Cassandra Mircev, Emma Vincan, Mathew Walzciek
2017	Andrew Dawson, Savannah Robertson
2016	Andrew Dobson, Jordan Illey, Alexandra Kenyon, Catherine Mazza, Caitlin McAuliffe, Jesse Reid, Simon Thuijs, Belinda Xie
2015	Matthew Andreotta, Marianne, Campbell, Grace McKie, Annabel Price
2014	Jemma Heart, Jay Kinkade, Jessica Sipes, Emily Tuckey
2013	Mei Jae Lai, Sarah Meredith, Isabelle Stacey
2012	Shaun Markovic, Brittany Sewell

Technical Skills

I am a proficient user of \LaTeX , MATLAB, Python, and R.

I have experience of developing, implementing, and testing cognitive models, including both algebraic and simulation models. The latter includes neural networks and sequential sampling models, such as random walk and accumulator models.

I am also experienced in the use of a number of model evaluation and selection methods, including: least squares and maximum likelihood parameter estimation; polytope optimization algorithms; information criteria approaches (e.g., AIC and BIC); parameter space partitioning; landscaping; cross validation and generalization methods; bootstrapping methods.