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## **EDUCATION**

1994 – 1997 B.Math – University of Newcastle

Major sequence in Real Analysis

1994 – 1998 B.Sc(Hons.Class 1) – University of Newcastle

Major sequence in Psychology

1999 – 2002 Ph.D. – University of Newcastle

Supervisor: Prof. Andrew Heathcote.

## **EMPLOYMENT**

2015-Now Professor

School of Psychology

University of Newcastle, Australia

2012-2016 Future Fellow

Australian Research Council, FT120100244

2010-2014 Associate Professor

School of Psychology

University of Newcastle, Australia

2008-2012 Queen Elizabeth II Research Fellow

Australian Research Council, DP0878858

2006-2010 Senior Lecturer

School of Psychology

University of Newcastle, Australia

2002–2006 Assistant Professor

Department of Cognitive Science

University of California, Irvine

## **AWARDS & HONOURS**

University of Newcastle's Nominee for the 2014 *STS Young Leaders' Program*.

Finalist, *Scopus Young Researcher Awards*, 2013, Social Sciences division.

Best Paper Award, *Behaviour Research Methods*, 2013

Inaugural Outstanding Young Investigator Award 2012 (*Psychonomic Society*)

New Investigator Award 2008 (*Society for Mathematical Psychology*)

Fellow of the Institute of Mathematical Behavioral Sciences

Member of the Society for Mathematical Psychology

Member of the American Psychonomic Society  
New Investigator Award 2006 (*American Psychological Association, Experimental Psychology Division*)  
Award for Teaching Excellence, UCI Celebration of Teaching 2004  
University Medalist, University of Newcastle  
Dean's Medalist – Faculty of Science & Mathematics  
J.A. Keats Prize in Quantitative Psychology  
Australian Psychological Society Prize  
Ivinskis Memorial Prize for Quantitative Psychology

## PEER REVIEWED JOURNAL ARTICLES

- [98] Evans, N.J., **Brown, S.D.**, Mewhort, D.J.K., & Heathcote, A. (in press, accepted 5/2/18) Refining the law of practice. *Psychological Review*.
- [97] Evans, N.J., Hawkins, G., Boehm, U., Wagenmakers, E.-J. & **Brown S.D.** (in press, accepted 12/11/2017) The computations that support simple decision-making: A comparison between the diffusion and urgency-gating models. *Scientific Reports*
- [96] Dutilh, G., Annis, J., **Brown, S.D.**, Cassey, P., Evans, N.J., Grasman, R.P.P.P., Hawkins, G.E., Heathcote, A., Holmes, W.R., Kryptos, A.-M., Kupitz, C.N., Leite, F.P., Lerche, V., Lin, Y.-S., Logan, G.D., Palmeri, T.J., Starns, J.J., Trueblood, J.S., van Maanen L., van Ravenzwaaij, D., Vandekerckhove, J., Visser, I., Voss, A., White, C.N., Wiecki, T.V., Rieskamp, J., & Donkin, C. (in press, accepted 24/10/2017) The Quality of Response Time Data Inference: A Blinded, Collaborative Assessment of the Validity of Cognitive Models. *Psychonomic Bulletin & Review*
- [95] Campbell, L.E., Hanlon, M.-C., Galletly, C., Harvey, C., Stain, H.J., Cohen, M., van Ravenzwaaij, D., **Brown, S.D.** (in press, accepted 20/08/2017). Severity of illness and adaptive functioning predict quality of care of children among parents with psychosis: A confirmatory factor analysis. *Australian and New Zealand Journal of Psychiatry*.
- [94] Provost, A., Jamadar, S., Heathcote, A., **Brown, S.D.**, & Karayanidis, F. (in press, accepted 30/6/2017). Inter-trial RT variability affects level of target-related interference in cued task-switching. *Psychophysiology*.
- [93] Evans, N.J., Rae, B., Bushmakin, M., Rubin, M., & **Brown S.D.** (2017). Need for Closure is Associated with Urgency in Perceptual Decision-Making. *Memory & Cognition* 45(7), 1193-1205.
- [92] Evans, N.J. & **Brown, S.D.** (in press, accepted 8/3/17) Bayes factors for the Linear Ballistic Accumulator model of decision-Making. *Behavior Research Methods*
- [91] Tillman, G., Benders, T., **Brown, S.D.**, & van Ravenzwaaij, D. (in press, accepted 2/12/16) An evidence accumulation model of acoustic cue weighting in vowel perception. *Journal of Phonetics*.
- [90] Evans, N.J., Howard, Z.L., Heathcote, A. & **Brown, S.D.** (2017) Model Flexibility Analysis does not measure the persuasiveness of a fit. *Psychological Review*, 124(3), 339-345.

- [89] Winkel, J., Hawkins, G.E., Ivry, R.B., **Brown, S.D.**, Cools, R., and Forstmann, B.U. (2016) Focal striatum lesions impair cautiousness in humans. *Cortex*, 85, 37-45.
- [88] Henman, P., **Brown, S.D.**, & Dennis, S. (2017) When rating systems do not rate: Evaluating ERA's performance. *Australian Universities Review*, 59(1).
- [87] Evans, N.E. & **Brown, S.D.** (2017) People adopt optimal policies in simple decision-making, after practice and guidance. *Psychonomic Bulletin & Review*, 24(2), 597-606.
- [86] Cassey, P., Gaut, G., Steyvers, M., & **Brown, S.D.** (2016) A generative joint model for spike trains and saccades during perceptual decision making. *Psychonomic Bulletin & Review*, 23(6), 1757-1778
- [85] van Ravenzwaaij, D., Provost, A., and **Brown, S.D.** (2017) A Confirmatory Approach for Integrating Neural and Behavioral Data into a Single Model. *Journal of Mathematical Psychology*, 76, 131-141.
- [84] van Ravenzwaaij, D., Cassey, P., and **Brown, S.D.** (2016) A Simple Introduction to Markov Chain Monte-Carlo Sampling. *Psychonomic Bulletin & Review*, 1-12. (Special issue on Bayesian methods.)
- [83] Ratcliff, R., Smith, P.L., **Brown, S.D.**, & McKoon, G. (2016) Diffusion Decision Model: Current Issues and History, *Trends in Cognitive Sciences*, 20(4), 260-281.
- [82] de Hollander, G., Forstmann, B.U., **Brown, S.D.** (2016) Different ways of linking behavioral and neural data via computational cognitive models. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 1, 101-109.
- [82] Weigard, A.S., Huang-Pollock, C., & **Brown, S.D.** (2016) Evaluating the consequences of impaired monitoring of learned behavior in ADHD using a Bayesian hierarchical model of choice response time. *Neuropsychology*, 30(4), 502-15.
- [81] Boehm, U., Hawkins, G.E., **Brown, S.D.**, van Rijn, H., Wagenmakers, E.-J. (2016). Of monkeys and men: Impatience in perceptual decision-making. *Psychonomic Bulletin & Review*, 23, 738-749.
- [80] Terry, A., Marley, A.A.J., Barnwal, A., Wagenmakers, E.-J., Heathcote, A., & **Brown, S.D.** (2015). Generalising the drift rate distribution for linear ballistic accumulators. *Journal of Mathematical Psychology*, 68-69, 49-58.
- [79] Cassey, P., Hawkins, G., Donkin, C., & **Brown, S.D.** (2016) Using alien coins to test whether simple inference is Bayesian. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 42(3), 497-503.
- [78] Trueblood, J., Heathcote, A., & **Brown, S.D.** (2015). The Fragile Nature of Contextual Preference Reversals: Reply to Tsetsos, Chater, and Usher. *Psychological Review*, 122(4), 848-853.
- [77] Hawkins, G.E., Wagenmakers, E.-J., Ratcliff, R., & **Brown, S.D.** (2015). Discriminating Evidence Accumulation From Urgency Signals In Speeded Decision Making. *Journal of Neurophysiology*, 114(1), 40-7.
- [76] Boebel, W., Wagenmakers, E.-J., Belay, L., Verhagen, J., **Brown, S.D.**, & Forstmann, B.U. (2015). A purely confirmatory replication study of structural brain-behavior correlations. *Cortex*, 66, 115-133.
- [75] Hawkins, G.E., Forstmann, B.U., Wagenmakers, E.-J., Ratcliff, R., & **Brown, S.D.** (2015). Revisiting the Evidence for Collapsing Boundaries and Urgency Signals in Perceptual Decision-Making. *The Journal of Neuroscience*, 35(6), 2476-2484.

- [74] Jones, L. G., Hawkins, G. E., & **Brown, S. D.** (2015). Using best-worst scaling to improve psychological service delivery: An innovative tool for psychologists in organized care settings. *Psychological Services, 12*(1), 20.
- [73] Cassey, P., Heathcote, A., & **Brown, S.D.** (2014). Brain and behavior in decision-making. *PLoS Computational Biology, 10*(7), e1003700. DOI: 10.1371/journal.pcbi.1003700
- [72] Hawkins, G. E., Marley, A. A. J., Heathcote, A., Flynn, T. N., Louviere, J. J., & **Brown, S. D.** (2014) Accepting and rejecting: Not so different. *Decision, 1*(3), 192-214.
- [71] Heathcote, A., **Brown, S.D.** & Wagenmakers, E.-J. (2014). The Falsifiability of Actual Decision-Making Models. *Psychological Review 121*(4), 676-678.
- [70] Ester, E., Ho, T.C., **Brown, S.D.**, & Serences, J.T. (2014). Variability in visual working memory ability limits the efficiency of perceptual decision making. *Journal of Vision, 14*(4), 1-12.
- [69] Trueblood, J., **Brown, S.D.**, & Heathcote, A. (2014). The multi-attribute linear ballistic accumulator model of context effects in multi-alternative choice. *Psychological Review, 121*(2), 179-205.
- [68] Rae, B., Heathcote, A., Donkin, C., Averell, L., & **Brown, S.** (2014). The hare and the tortoise: Emphasizing speed can change the evidence used to make decisions. *Journal of Experimental Psychology: Learning, Memory & Cognition, 40*, 1226-1243.
- [67] Ho, T.C., Yang, G., Wu, J., Paulus, M.P., Cassey, P., Brown, S.D., Connolly, C.G., Hoang, N., Chan, M., Blom, E.H., Duncan, L.G., Chesney, M.A., Simmons, A.N., Yang, T.T. (2014). Functional connectivity of negative emotional processing in adolescent depression. *Journal of Affective Disorders, 155*, 65-74
- [66] Hawkins, G. E., Marley, A. A. J., Heathcote, A., Flynn, T. N., Louviere, J. J., & **Brown, S. D.** (2014). Integrating cognitive process and descriptive models of attitudes and preferences. *Cognitive Science, 38*, 701-735.
- [65] Matzke, D., Love, J., Wiecki, T.V., **Brown, S.D.**, Logan, G.D., Wagenmakers, E.-J. (2013) Release the BEESTS: Bayesian Estimation of Ex-Gaussian STop-Signal Reaction Time Distributions *Frontiers in Quantitative Psychology and Measurement, 4*:918. doi: 10.3389/fpsyg.2013.00918
- [64] Friedman, J., **Brown, S.D.** & Finkbeiner, M. (2013). Linking cognitive and reaching trajectories via intermittent movement control. *Journal of Mathematical Psychology, 57*, 140-151.
- [63] Turner, B., Sederberg, P., **Brown, S.D.**, & Steyvers, M. (2013). A Method for Efficiently Sampling from Distributions with Correlated Dimensions. *Psychological Methods, 18*(3), 368–384.
- [62] Turner, B., Forstmann, B., Wagenmakers, E.-J., **Brown, S.D.**, Sederberg, S. & Steyvers, M. (2013). A Bayesian Framework for Simultaneously Modeling Neural and Behavioral Data *Neuroimage 72*, 193-206.
- [61] Matzke, D., Dolan, C.V., Logan, G.D., **Brown, S.D.**, & Wagenmakers, E.-J. (2013). Bayesian parametric estimation of stop-signal reaction time distributions. *Journal of Experimental Psychology: General, 142*, 1047-1073.
- [60] Trueblood, J., **Brown, S.D.**, Heathcote, A. & Busemeyer, J. (2013). Not just for consumers: Context effects are fundamental to decision-making. *Psychological*

*Science* 24(6), 901-908.

- [59] Parris, B.A., Bate, S., **Brown, S.D.** & Hodgson, T.L. (2012). Facilitating goal-oriented behaviour in the Stroop task: When executive control is influenced by automatic processing. *PLoS One*, 7(10) e46994.
- [58] Hawkins, G., Rae, B., Nesbitt, K. & **Brown, S.D.** (2013). Game-like features might not improve data. *Behavior Research Methods*, 46(2) 301-318.
- [57] Sinderberry, B., **Brown, S.D.**, Hammond, P., Stevens, A.F., Schall, U., Murphy, D.G., Murphy, K.C. & Campbell, L. (2013). Subtypes in 22q11.2 deletion syndrome associated with behaviour and neurofacial morphology. *Research in Developmental Disabilities*, 34(1), 116-125.
- [56] Provost, A., Johnson, B., Karayanidis, F., **Brown, S.D.**, & Heathcote, A. (2013) Two routes to expertise in mental rotation. *Cognitive Science*, 37 (7) 1321–1342.
- [55] Ho, T.C., **Brown, S.D.**, Abuyo, N.A., Kul, E.-H.J. & Serences, J.T. (2012) Perceptual consequences of feature-based attentional enhancement and suppression. *Journal of Vision*, 12(8), 15.
- [54] Ho, T.C., **Brown, S.D.**, van Maanen L., Forstmann, B.U. Wagenmakers, E.-J. and Serences J.T. (2012) The optimality of sensory processing during the speed-accuracy tradeoff. *Journal of Neuroscience*, 32(23), 7992-8003.
- [53] Dodds, P., Rae, B. & **Brown, S.D.** (2012) Perhaps Unidimensional is not Unidimensional. *Cognitive Science*, 36(8), 1542-1555.
- [52] Hawkins, G., **Brown, S. D.**, Steyvers, M., & Wagenmakers, E.-J. (2012). An optimal adjustment procedure to minimize experiment time in decisions with multiple alternatives. *Psychonomic Bulletin & Review*, 19, 339-348.
- [51] van Maanen, L., Grasman, R.P.P.P., Forstmann, B.U., Keuken, M.C. **Brown, S.D.**, & Wagenmakers, E.-J. (2012). Similarity and number of alternatives in the random-dot motion paradigm. *Attention, Perception & Psychophysics*, 74(4) 739-753.
- [50] Hawkins, G., **Brown, S. D.**, Steyvers, M., & Wagenmakers, E.-J. (2012). Decision speed induces context effects in choice. *Experimental Psychology*, 59, 206-215.
- [49] **Brown, S.D.** (2012). Common ground for behavioural and neuroimaging research. *Australian Journal of Psychology*, 64(1), 4-10.
- [48] van Maanen, L., **Brown, S.D.**, Eichele, T., Wagenmakers, E.-J., Ho, T.C., Serences, J.T., & Forstmann, B.U. (2011). Neural correlates of trial-to-trial fluctuations in response caution. *Journal of Neuroscience*, 31(48), 17488-17495.
- [47] Forstmann, B.U., Tittgemeyer, M., Wagenmakers, E.-J., Derrfuss, J., Imperati, D., & **Brown, S.D.** (2011). The speed-accuracy tradeoff in the elderly brain: A structural model-based approach. *Journal of Neuroscience*, 31(47), 17242-17249.
- [46] Turner, B., Van Zandt, T., & **Brown, S.D.** (2011). A Dynamic Stimulus-Driven Model of Signal Detection. *Psychological Review*, 118(4), 583-613.
- [45] White, C.N., **Brown, S.D.**, & Ratcliff, R. (2012). A test of Bayesian observer models of processing in the Eriksen flanker task. *Journal of Experimental Psychology: Human Perception and Performance*, 38(2), 489-497.
- [44] Prince, M., **Brown, S.D.**, Heathcote, A. (2012). The design and analysis of state-trace experiments. *Psychological Methods*, 17(1), 78-99.
- [43] Dodds, P., Donkin, C., **Brown, S.D.**, Heathcote, A., & Marley, A.A.J. (2011). Stimulus-specific learning: disrupting the bow effect in absolute identification. *Attention, Perception & Psychophysics*, 73, 1977-1986.

- [42] Hawkins, G., **Brown, S.D.**, Steyvers, M. & Wagenmakers, E.-J. (2012). Context Effects in Multi-Alternative Decision Making: Empirical Data and a Bayesian Model. *Cognitive Science*, 36(3), 498-516.
- [41] Forstmann, B.U., Wagenmakers, E.-J., Eichele, T., **Brown, S.D.**, & Serences J.T. (2011). Reciprocal relations between cognitive neuroscience and cognitive models: Opposites attract? *Trends in Cognitive Sciences*, 15(6), 272-279.
- [40] van Ravenzwaaij, D., **Brown, S.D.**, & Wagenmakers, E.-J. (2011). An integrated perspective on the relation between response speed and intelligence. *Cognition*, 118, 381-393.
- [39] Dodds, P., Donkin, C., **Brown, S.D.**, & Heathcote, A. (2011). Increasing Capacity: Practice Effects in Absolute Identification. *Journal of Experimental Psychology: Learning, Memory & Cognition*, 37(2), 477-492.
- [38] Donkin, C., **Brown, S.D.**, & Heathcote, A. (2011). Drawing conclusions from choice response time models: a tutorial using the Linear Ballistic Accumulator. *Journal of Mathematical Psychology*, 55, 140-151.
- [37] Donkin, C., **Brown, S.D.**, Heathcote, A. & Wagenmakers, E.-J. (2011). Diffusion versus Linear Ballistic Accumulation: Different models but the same conclusions about psychological processes? *Psychonomic Bulletin & Review*, 18(1), 61-69.
- [36] Karayanidis, F., Provost, A., **Brown, S.D.**, Paton, B. & Heathcote, A. (2011). Switch-specific and general preparation map onto different ERP components in a task-switching paradigm. *Psychophysiology*, 48(4), 559-568.
- [35] Forstmann, B.U., Schäfer, A., Anwander, A., Neumann, J., **Brown, S.D.**, Wagenmakers, E.-J., Bogacz, R., Turner, R. (2010). Cortico-Striatal connections predict control over speed and accuracy in perceptual decision making. *Proceedings of the National Academy of Science*, 107, 15916-15920.
- [34] Heathcote, A., **Brown, S.D.**, Wagenmakers, E.-J., & Eidels, A. (2010). Distribution-free tests of stochastic dominance for small samples. *Journal of Mathematical Psychology*, 54, 454-463.
- [33] Forstmann, B.U., **Brown, S.D.**, Dutilh, G., Neumann, J., & Wagenmakers, E.-J. (2010). The Neural Substrate of Prior Information in Perceptual Decision Making: A Model-Based Analysis. *Frontiers in Neuroscience*, 4, Article 40.
- [32] Eidels, A., Donkin, C., **Brown, S.D.**, & Heathcote, A. (2010). Converging measures of workload capacity. *Psychonomic Bulletin & Review*, 17, 763-771.
- [31] **Brown, S.D.**, Wagenmakers, E.-J., & Steyvers, M. (2009). Observing evidence accumulation during multi-alternative decisions. *Journal of Mathematical Psychology*, 53, 453-462.
- [30] Donkin, C., **Brown, S.D.** & Heathcote, A. (2009). The over-constraint of response time models: Rethinking the scaling problem. *Psychonomic Bulletin & Review*, 16, 1129-1135.
- [29] Ho, T.C., **Brown, S.D.** & Serences, J.T. (2009). Domain general mechanisms of perceptual decision making in human cortex. *Journal of Neuroscience*, 29, 8675-8687.
- [28] Donkin, C., Averell, L., **Brown, S.D.** & Heathcote, A. (2009) Getting more from accuracy and response time data: methods for fitting the linear ballistic accumulator. *Behavior Research Methods*, 41, 1095-1110.
- [27] **Brown, S.D.**, Marley, A.A.J., Dodds, P., & Heathcote, A.J. (2009). Purely relative

- models cannot provide a general account of absolute identification. *Psychonomic Bulletin & Review*, 16, 583-593.
- [26] **Brown, S.D.** & Steyvers, M. (2009). Detecting and predicting changes. *Cognitive Psychology*. *Cognitive Psychology*, 58, 49-67.
- [25] Donkin, C., **Brown, S.D.** & Heathcote, A. (2009). ChoiceKey: A real-time speech recognition program for psychology experiments with a small response set. *Behavior Research Methods*, 41, 154-162.
- [24] Donkin, C., **Brown, S.D.**, Heathcote, A.J. & Marley, A.A.J. (2009). Dissociating speed and accuracy in absolute identification: The effect of unequal stimulus spacing. *Psychological Research*, 73, 308-316.
- [23] Forstmann, B.U., Dutilh, G., **Brown, S.D.**, Neumann, J., von Cramon, D.Y., Ridderinkhof, K.R., & Wagenmakers, E.J. (2008). Striatum and pre-SMA facilitate decision-making under time pressure. *Proceedings of the National Academy of Science*, 105, 17538-17542.
- [22] **Brown, S.D.**, Heathcote, A. (2008). The simplest complete model of choice reaction time: Linear ballistic accumulation. *Cognitive Psychology*, 57, 153-178.
- [21] **Brown, S.D.**, Marley, A.A.J., Donkin, C. & Heathcote, A.J. (2008). An integrated architecture for absolute identification. *Psychological Review*, 115(2), 396-425.
- [20] Wagenmakers, E.-J., & **Brown, S.D.** (2007). On the relation between the mean and the variance of response times. *Psychological Review*, 114(3), 830-841.
- [19] **Brown, S.D.**, Marley, A.A.J., & Lacouture, Y. (2007). Is absolute identification always relative? *Psychological Review*, 114(2), 528-532.
- [18] **Brown, S.D.**, Steyvers, M., & Hemmer, P. (2007). Modeling experimentally induced strategy shifts. *Psychological Science* 20(1), 40-46.
- [17] **Brown, S.D.**, Ratcliff, R., Smith, P.L. (2006). Evaluating methods for approximating stochastic differential equations. *Journal of Mathematical Psychology*, 50, 402-401.
- [16] **Brown, S.D.**, Poboka, D., & Lehmann, C. (2006). A critical test of the failure-to-engage theory of task switching. *Psychonomic Bulletin & Review*, 13, 152-159.
- [15] **Brown, S.D.** & Steyvers, M. (2005). The dynamics of induced criterion shift. *Journal of Experimental Psychology: Learning, Memory & Cognition* 31, 587-599.
- [14] **Brown, S.D.**, & Heathcote, A. (2005). A ballistic model of choice response time. *Psychological Review*, 112(1), 117-128.
- [13] Chambers, R.A., Jones, R.M., **Brown, S.D.** & Taylor, J.R. (2005). Natural reward-related learning in rats with neonatal ventral hippocampal lesions and prior cocaine exposure. *Psychopharmacology* 179, 470-478.
- [12] **Brown, S.D.** & Heathcote, A. (2005). Practice increases the efficiency of evidence accumulation in perceptual choice. *Journal of Experimental Psychology: Human Performance & Perception*, 31, 289-298.
- [11] Heathcote, A., **Brown, S.D.** & Cousineau, D. (2004). QMPE: Estimating Lognormal, Wald and Weibull RT distributions with a parameter dependent lower bound. *Behavior Research, Methods, Instruments & Computers*, 36, 277-290.
- [10] Cousineau, D., **Brown, S.D.** & Heathcote, A. (2004) Methods and packages for fitting RT distributions. *Behavior Research Methods, Instruments, & Computers*, 36(2), 277-290.

- [9] Heathcote, A. & **Brown, S.D.** (2004). Beyond curve fitting? Comment on Liu, Mayer-Kress and Newell. *Journal of Motor Behavior*, 36(2) 225-232.
- [8] Heathcote, A. & **Brown, S.D.** (2004). Reply to Speckman and Rouder: A theoretical basis for QML. *Psychonomic Bulletin & Review*, 11, 577-578.
- [7] **Brown, S.D.**, & Heathcote, A. (2003). QMLE: Fast, robust and efficient estimation of distribution functions based on quantiles. *Behavior Research Methods, Instruments, & Computers*, 35(4), 485-492.
- [6] **Brown, S.D.** & Heathcote, A. (2003) Bias in exponential and power function fits due to noise: Comment on Myung, Kim, and Pitt. *Memory & Cognition*, 31(4), 656-661.
- [5] **Brown, S.D.**, & Heathcote, A. (2003) Averaging learning curves across and within participants. *Behavior Research Methods, Instruments, & Computers*, 35, 11-21.
- [4] **Brown, S.D.**, & Heathcote, A. (2002). On the use of nonparametric regression in assessing parametric regression models. *Journal of Mathematical Psychology*, 46(6) 716-730.
- [3] Heathcote, A., **Brown, S.D.** & Mewhort, D.J.K. (2002). Quantile maximum likelihood estimation of response time distributions. *Psychonomic Bulletin and Review*, 9(2) 394-401.
- [2] Heathcote, A., **Brown, S.D.** (2001). The law of practice and localist neural network models. *Behavioral and Brain Sciences*, 23.
- [1] Heathcote, A., **Brown, S.D.** & Mewhort, D.J.K. (2000) The Power Law repealed: The case for an exponential law of practice. *Psychonomic Bulletin and Review*, 7, 185-207.

## BOOK CHAPTERS

- [3] Donkin, C. & **Brown, S.D.** (2016) Response time modeling. In Wixted, T. & Wagenmakers, E.-J. *The Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, Volume 5, Fourth Edition*.
- [2] Heathcote, A., **Brown, S.D.**, & Wagenmakers, E.-J. (2015) An Introduction to Good Practices in Cognitive Modeling. In B.U. Forstmann & E.-J. Wagenmakers (Eds.). *An introduction to model-based cognitive neuroscience*. Springer.
- [1] Donkin, C., Rae, B., Heathcote, A., & **Brown, S.D.** (2015) Why Accurately Labeling Simple Magnitudes So Hard? A Past, Present, and Future Look at Simple Perceptual Judgment. In J.R. Busemeyer, Z. J. Wang, J.T. Townsend, & A. Eidels (Eds.) *Oxford Handbook of Computational and Mathematical Psychology*. Oxford University Press.

## PEER REVIEWED CONFERENCE PROCEEDINGS

- [7] Dodds, P., Donkin, C., **Brown, S.D.** & Heathcote, A. (2010) Multidimensional Scaling Methods for Absolute Identification Data. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*. Portland, OR: Cognitive Science Society.



- [6] Hawkins, G., Prince, M., **Brown, S.D.** & Heathcote, A. (2010) Designing state-trace experiments to assess the number of latent psychological variables underlying binary choices. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society. Portland, OR: Cognitive Science Society.*
- [5] Donkin, C., Heathcote, A., **Brown, S.D.**, & Andrews, S. (2009). Non-decision time effects in the lexical decision task. *31st Annual Conference of the Cognitive Science Society.*
- [4] Dodds, P., Donkin, C., **Brown, S.D.**, & Heathcote, A. (2009). Revisiting the limits of learning in absolute identification. *31st Annual Conference of the Cognitive Science Society.*
- [3] Donkin, C., Heathcote, A. & **Brown, S.D.** (2009). Is the Linear Ballistic Accumulator Model really the Simplest Model of Choice Response Times: A Bayesian Model Complexity Analysis. *9th International Conference on Cognitive Modeling.*
- [2] Steyvers, M. & **Brown, S.D.** (2005). Prediction and change detection. *Advances in Neural Information Processing Systems*, 18.
- [1] Heathcote, A. & **Brown, S.D.** (2002). SEEXC: A model of response time in skill acquisition, *Noetica, Cognitive Science Conference 2002 Papers.*

## **INVITED PRESENTATIONS ETC.**

- [24] Invited seminar at UniSA's *Institute for Choice*, on neuroeconomics. June 14<sup>th</sup> 2017.
- [23] Newspaper coverage of our analysis of the Australian Research Council's 2015 ERA exercise, published in *The Australian* newspaper, Feb 22 2017.
- [22] Invited seminar in the Cognitive, Linguistic & Psychological Sciences Department of Brown University (Providence, R.I.), 9<sup>th</sup> November, 2016.
- [21] Invited seminar in the Anderson Stuart Seminar Series at the University of Sydney's School of Medical Science (Physiology), 1<sup>st</sup> August, 2016.
- [20] Invited seminar at QUT's School of Economics & Finance, 7<sup>th</sup> July, 2016.
- [19] Invited presentation at OzFoodNet meeting on statistical advances, 20<sup>th</sup> October, 2015.
- [18] Invited seminar at Hunter New England Health (Population Health, Wallsend) on Discrete Choice Experiments, given 26<sup>th</sup> August 2015.
- [17] Invited review article for first issue of new journal *Biological Psychiatry Cognitive Neuroscience and Neuroimaging*, 2015.
- [16] Invited seminar at HMRI (John Hunter Hospital) on Discrete Choice Experiments, given 10<sup>th</sup> June 2015.
- [15] Invited seminar given at NSW State Forestry Office, Wauchope, 23<sup>rd</sup> April 2015.
- [14] Invited speaker at ICON-XII 2014 Satellite Meeting on Multidisciplinary and Translational Advances in Cognitive Control.
- [13] Speaker at invitation-only *NeuroCog Collective* meeting, 2014. Topic: Levels of analysis in neuroscience and psychology.
- [12] Symposium participant at *American Psychological Society's* 2014 conference (San Francisco). Topic: Breakthroughs in understanding simple decision-making.
- [11] Invited speaker at the *Interdisciplinary Workshop on Trademark Law & the Consumer*, Broome, Western Australia, 2013.

- [10] Invited speaker at the *Innovative Methods in Neuroimaging* workshop (Macquarie University), 2013.
- [9] Plenary presentation at *International Choice Modelling Conference (ICMC) 2013*. Reviewing my work in process models for best-worst scaling.
- [8] *New Scientist*, 22<sup>nd</sup> November 2011, review of work on aging:  
<http://www.newscientist.com/article/dn21200-older-brains-lack-access-to-region-for-swift-decisions.html>
- [7] *Australasian Society for Mathematical Psychology*, 2011 annual meeting (Melbourne). Invited workshop presentation on response time models.
- [6] *Science*, Vol 329, p.1443, 17<sup>th</sup> September 2010, “Editor’s Choice” précis of collaborative work on the neurobiology of decision making.
- [5] *Psychonomic Society Annual Meeting 2010*, St. Louis. Invited symposium presentation on theories of criterion setting.
- [4] *Australian Broadcasting Corporation, Science News*, 24<sup>th</sup> August 2010. Feature article reviewing collaborative work on the neurobiology of decision making (<http://www.abc.net.au/science/articles/2010/08/24/2991740.htm>).
- [3] *Experimental Psychology Conference 2010*, Melbourne. Invited symposium presentation on tensions between cognitive psychology and neuropsychology.
- [2] *Australian Journal of Psychology, Special Issue 2011*. Invited article in a proposed special issue covering the relationship between mathematical psychology and neuropsychology.
- [1] *Psychonomic Society Annual Meeting 2010*, Invited symposium presentation on theories of criterion setting.

## COMPETITIVE GRANTS

- [20] ARC Discovery Project “The value of time during decisions”. \$327,000. CIs: Guy Hawkins, Scott Brown. 2018-2020. DP180103613
- [19] ARC Discovery Project “Flexible models and methods for cognitive model-based decision-making” \$349,000. CIs: Robert Kohn, Scott Brown, Minh-Ngoc Tran. 2018-2020. DP180102195
- [18] Psychonomic Society William K. and Katherine W. Estes Fund to support summer school “Bayesian Estimation of Evidence Accumulation Architectures in Neuroscience and Cognition”. USD\$40,000. CI is Andrew Heathcote.
- [17] Universities Australia – Germany Joint Research Co-operation Scheme. “Effects of faulty relevance filtering on control of attentional processes”. \$11,000, 2016. CI with Juanita Todd & Erich Schroger.
- [16] Hunter Cancer Research Alliance Implementation Science Flagship Program Pilot Project. “Linking cancer patients with clinical trials: Examining patient willingness to travel”. \$20,000, 2015. CI: Dr. Nick Zdenkowski.
- [15] NHMRC Project Grant “The impact of faulty relevance filtering in schizophrenia”. \$239,257, 2016-2018, 1080938. CIs: J. Todd, S.D. Brown, U. Schall, P. Michie, E. Schroger.
- [14] ARC Discovery Project “A new approach to understanding decision making” \$229,000, 2013-2015, DP130100124. CIs: C. Donkin, S.D. Brown, G.D. Logan

- [13] ARC Future Fellowship “How strong inference has failed psychology, and an updated approach”. \$717,567, 2012-2016, FT120100244. Sole investigator.
- [12] ARC Discovery Project “Rapid decisions: from neuroscience to complex cognitions” \$134,000, 2012-2014, DP120102907. CIs: S.D. Brown, A. Eidels, A. Heathcote. Partner Investigators: J. Serences, T. Braver, E.-J. Wagenmakers, B. Forstmann.
- [11] National Institutes for Mental Health (NIMH, U.S.A.). Co-P.I., along with John Serences (lead PI). Title: Adaptive allocation of attention during perception, working memory, and decision making. Total Direct Costs: USD\$1,250,000 from 2010-2015.
- [10] The Netherlands Organisation for Scientific Research (NWO) ALW grant: Model-based structural fingerprinting of the Basal Ganglia. EUD\$229,000. 10% co-Chief Investigator with B.U. Forstmann (UvA) E.-J. Wagenmakers (UvA), Sander Nieuwenhuis (University of Leiden), Rafal Bogacz (University of Bristol), John Serences (UCSD), and Han van der Maas (UvA).
- [9] University van Amsterdam, Cognition Program, EURO\$580,000 'Decision-making and adaptive control over impulsive actions' with B.U. Forstmann (UvA), K.R. Ridderinkhof (UvA), F. van Winden (Creed Institute), D. Denys (AMC), and E.-J. Wagenmakers (UvA). 10% co-Chief Investigator.
- [8] Australian Academy of Sciences International Visits Grant (Europe), 2009. Co-Investigator Dr. E.-J. Wagenmakers (UvAmsterdam). \$10,000.
- [7] ARC Discovery Project + Queen Elizabeth II Fellowship “A new kind of dynamics for psychology” \$657,000, 2008-2012, DP0878858. Sole Chief Investigator (A/Prof. Mark Steyvers is an Overseas Investigator).
- [6] ARC Discovery Project “Absolute identification and beyond: A comprehensive, integrated architecture for speeded choice” \$120,000, 2008-2010, DP0881244. 50% Co-investigator with Prof. Andrew Heathcote.
- [5] New Staff Grant for \$40,000 in 2007-2008 from (combined) The University of Newcastle and the Priority Research Centre for Brain and Mental Health.
- [4] The Netherlands Organisation for Scientific Research (NWO) one year grant of 30,000 euros for project “Diffusion processes in the brain”. Co-investigator with EJ Wagenmakers, Birte Forstmann and Jane Neumann.
- [3] National Science Foundation doctoral research dissertation (with student Fabio Leite) “Research in Reaction Time Modeling in Binary Decision Making Tasks”, USD\$15,000
- [2] Australian Research Council Linkage International Project (PI Doug Vickers, LX0348125), AUD\$70,000.
- [1] US Air Force Office of Scientific Research “Inference in Dynamic Environments” with Mark Steyvers (50% co-PI). Total costs USD\$380,000 (3yrs).

## **SERVICE TO THE FIELD**

Editor, *Computational Brain & Behaviour*, 2018-

Co-Organiser for the 2016 *Sequential Sampling Models Workshop* (Boston, MA).  
Sponsored by the Estes Foundation through the Psychonomic Society. November

7-11 2016.

President, Society for Mathematical Psychology, 2016-2017.

Member of the review panel for the 2015 special issue of the *Journal of Mathematical Psychology* on integrating neuropsychological and mathematical approaches to cognition.

Co-Organiser for 2015 *Australasian Mathematical Psychology Conference*.

Co-Organiser for the 2014 *LBA Summer School* (Newcastle, Australia).

Co-organiser for the 2014 meeting of *NeuroCog Collective* (invitation-only workshop, Coffs Harbour, NSW).

Associate Editor, *Journal of Experimental Psychology: Learning, Memory & Cognition*, 2014-2017.

Associate Editor, *Cognitive Psychology*, 2013-2017.

Member of the Executive Committee for the Society of Mathematical Psychology 2013-.

Consulting Editor, *Journal of Mathematical Psychology*, 2011-2015.

Co-Organiser for 2009 *Australasian Mathematical Psychology Conference*.

“OzReader” for various ARC schemes from 2007-present.

May 2005 NSF Review Panel in Washington, DC, for “Human and Social Dynamics”

Ad hoc reviewer for: Neural & Information Processing Conference (NIPS) 2003, 2004; Psychological Review; Psychological Methods; Memory & Cognition; Journal of Mathematical Psychology; Journal of Memory & Language; Behavior Research, Methods, Instruments & Computers; Psychological Bulletin; Air Force Office of Scientific Research Granting Agency.

## **ADMINISTRATIVE SERVICE**

Deputy Head of School (Research) 2017-

ERA Cluster Advisory Group (FoR 17&11) 2017

Priority Research Centre for Brain & Mental Health (previously CTNMH) Executive Committee 2015-

School of Psychology Research Committee 2015-

Faculty of Science & I.T. Research and Research Training Committee 2015-

Head of Cognitive Research Group 2015-  
Deputy Head of Cognitive Research Group 2014  
ERA Steering Group Committee (FoR 17&11) 2014  
School of Psychology Colloquium Organiser 2011-2014

## **TEACHING**

### **Past Graduate Students**

Fabio Leite, primary supervisor, graduated with Ph.D. 2006  
Chris Donkin, primary supervisor, graduated with Ph.D. 2010  
Catherine Dorward, secondary supervisor, graduated with D.Clin.Psych. 2010  
Pennie Dodds, primary supervisor, graduated with Ph.D. 2012  
Guy Hawkins, primary supervisor, graduated with Ph.D. 2013  
Leanne Jones, primary supervisor, graduated with D.Clin.Psych, 2014  
Kate Llewellyn, primary supervisor, graduated with M.Clin., 2015  
Linda Campbell, primary supervisor, graduated with M.Clin., 2015  
Pete Cassey, primary supervisor, graduated with Ph.D., 2015  
Elizabeth Walsh, primary supervisor, graduated with M.Clin., 2016  
Nathan Evans, primary supervisor, graduated with Ph.D., 2016  
Gabriel Tillman, secondary supervisor, graduated with Ph.D., 2017  
Cynthia-Louise Dellit, secondary supervisor, graduated with M.Phil., 2017

### **Annually**

- 2017 Primary supervisor to Caroline Kuhne (PhD), Reilly Innes (PhD), Babette Rae (PhD), Rachael Vickery (PhD), Nathan Warn (PhD Clinical),. Co-supervisor to Laura Wall (PhD), Samuel Curley (PhD), Louise Dellit (MA, Conservatorium of Music), David Kellett (PhD, USydney), Zachary Howard (PhD).
- 2016 Primary supervisor to Babette Rae (PhD), Rachael Vickery (PhD), Nathan Evans (PhD), Nathan Warn (PhD Clinical),. Co-supervisor to Laura Wall (PhD), Samuel Curley (PhD), Louise Dellit (MA, Conservatorium of Music), Gabriel Tillman (PhD), David Kellett (PhD, USydney).
- 2015 Primary supervisor to Babette Rae (PhD), Pete Cassey (PhD), Rachael Vickery (PhD), Nathan Evans (PhD), Nathan Warn (PhD Clinical), Elizabeth Walsh (Masters Clin.). Co-supervisor to Lee Averell (PhD), Laura Wall (PhD), Samuel Curley (PhD), Louise Dellit (MA, Conservatorium of Music).
- 2014 Primary supervisor to Babette Rae (PhD), Pete Cassey (PhD), Nathan Evans (PhD), Leanne Jones (D.Clin.Psych.), Linda Campbell (M.Clin.Psych.), Kate Llewellyn (Prof.Doc), Elizabeth Walsh (Masters Clin.). Co-supervisor to Lee

- Averell (PhD), Rachael Vickery (PhD), Louise Dellit (MA, Conservatorium of Music).
- 2013  
Primary supervisor to Pete Cassey (PhD), Guy Hawkins (PhD), Babette Rae (PhD) and Leanne Jones (D.Clin.Psych.), co-supervisor for Lee Averell (PhD) Louise Dellit (MA, Conservatorium of Music). Taught lectures into undergraduate cognitive classes (PSYC2300) and ran an undergraduate research seminar (PSYC4400).
- 2012  
Primary supervisor to Pete Cassey (PhD), Guy Hawkins (PhD), Babette Rae (PhD) and Leanne Jones (D.Clin.Psych.), co-supervisor for Lee Averell (PhD) and Brooke Sinderberry (PhD). Taught lectures into undergraduate cognitive classes (PSYC2300 and PSYC3300) and taught an undergraduate research seminar (PSYC4400).
- 2011  
Primary supervisor to Pennie Dodds (PhD), Babette Rae (PhD) and Guy Hawkins (PhD), co-supervisor for Lee Averell (PhD) and Brooke Sinderberry (PhD).
- 2010  
Primary supervisor to Pennie Dodds (PhD), and Guy Hawkins (PhD), co-supervisor for Lee Averell (PhD) and Brooke Sinderberry (PhD).
- 2009  
Primary supervisor to Christopher Donkin (PhD), Pennie Dodds (PhD), and Guy Hawkins (PhD), co-supervisor for Lee Averell (PhD), Catherine Dorward (D.Clin.Psych.) and Brooke Sinderberry (hons.).
- 2008  
Primary supervisor to Christopher Donkin (PhD), Pennie Dodds (PhD) and Nathan Smith (hons.), co-supervisor for Lee Averell (PhD) and Catherine Dorward (D.Clin.Psych.).
- 2007  
Taught PSYC2000 as course co-ordinator. Taught into PSYC3000 and PSYC1020. Primary supervisor to Christopher Donkin (PhD) and co-supervisor for Lee Averell (PhD). Honours students supervised: Jarrod Blane, Pennie Dodds, & Lauren Melehan.
- 2005-2006 Academic Year  
Co-Advisor to graduate students Fabio Leite (graduated with PhD) & Mike Yi. Advised undergraduate honors students Shahab Motamedina & Andrew Torr. Classes: senior experimental methodology sequence (spring & winter); graduate seminar on cognitive modeling.
- 2004-2005 Academic Year  
Co-Advisor to graduate students Fabio Leite (graduated with PhD) & Mike Yi. Advised undergraduate honors student Pernille Hemmer (now PhD student). Classes: senior experimental methodology sequence (spring & winter); graduate seminar on cognitive modeling.
- 2003-2004 Academic Year

Co-Advisor for graduate student (Fabio Leite).

Advised undergraduate honor students Pooja Reddy & Curtis Lehmann.

Classes: pro-seminar course; senior experimental methodology sequence (spring & winter).

2002-2003 Academic Year

Classes: pro-seminar course; senior experimental methodology sequence (spring & winter).