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## Australasian Mathematical Psychology Conference 2021

Newcastle, Australia

11-12 February 2021

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### Welcome

Welcome to the Australasian Mathematical Psychology Conference 2021. This year for the first time we are hosting the conference both in person at Noah's on the Beach in Newcastle and online around the world via Zoom.

*Virtual attendees* – Please remember to mute your microphone during the blitz presentations and unmute your microphone to join the discussion. We would love to see your faces so encourage you to use your video during the presentations and discussion, where possible. Zoom information is provided on the [conference website](#).

*Presenters* - Your blitz presentation slide will be broadcast from the conference site in Newcastle. You simply need to step up to the podium in Newcastle or unmute your microphone on Zoom to start your 3-minute blitz presentation.

For further information, please view the [AMPC 2021 Conference Guide](#).

### COVID-19 Statement

AMPC 2021 adheres to current COVID-19 guidelines in NSW. In-person attendees – Please check-in via the NSW Government app or the QR codes located throughout Noah's, observe physical distancing requirements, sanitise your hands regularly, and limit touching to food you intend to consume.

### Acknowledgements

We acknowledge the traditional owners of the land on which the in-person events of AMPC 2021 take place, the Awabakal people, and the traditional owners of the lands on which all virtual attendees join AMPC 2021. We pay our respects to elders past, present and emerging.

We acknowledge the financial support of the NSW Government Office of the Chief Scientist & Engineer and the Faculty of Science, University of Newcastle. Their contributions allowed us to sponsor the research training opportunities for PhD students attending AMPC 2021. They also facilitated the hybrid structure of the in-person and online events of AMPC 2021.



Office of the  
Chief Scientist  
& Engineer



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA



## Blitz Presentation and Discussion Program

AMPC 2021 consists of 9 live “blitz” and discussion sessions. The purpose of the 3-minute blitz talk is to serve as a reminder for the [full-length pre-recorded talk](#) that is available for viewing prior to AMPC. Discussion of the presentations will follow.

All times are Australian Eastern Daylight Savings time.

### Day 1

Thursday 11 February 2021

Welcome: 8:50am - 9am

#### *Session Title*

#### *Presenting author*

#### Session 1

9am-10am

|   |                     |
|---|---------------------|
| Risk, Regret, and Information-Seeking   | Tehilla Ostrovsky   |
| Dynamic Perception of Well-Learned Perceptual Objects   | Richard M. Shiffrin |
| Dynamic Perception Revealed by Cursor Movements   | Samuel Harding      |
| Modelling the Dynamics of Goal-Directed Motivation and Decision Making: Insights from Two Decades of Professional Basketball Data | Timothy Ballard     |
| Discriminating between decision strategies in preferential choice   | Gavin Cooper        |
| A Multi-Component Process-Tracing Study of the Attraction Effect  | Neo Poon            |
| Comparing Markov and quantum random walk models of categorization decisions   | Gunnar Epping       |

#### Session 2

10am-11am

|  |                      |
|--|----------------------|
| Trapped by Early Learning: Exploration, Contingent Feedback and the Development of Learning Traps              | Brett Hayes          |
| Ideology, Communication, and Polarisation  | Yoshi Kashima        |
| Tracking logical structure in brightness rating tasks – Intuitive logic or looking for the strongest signal?   | Nicole Cruz          |
| Increased source-monitoring load induces better decisions: Evidence polarization through exponential weighting | Yonatan Vanunu       |
| Representation and integration of prior beliefs in a probabilistic reasoning task                              | Piers Howe           |
| Censor Detection: When and how do people generalize from censored evidence?                                    | Saoirse Connor Desai |



**Session 3**

**11am-12pm**

|   |                        |
|---|------------------------|
| The acceptability and usage of COVID-19 tracking technologies   | Paul Garrett           |
| Measuring self-efficacy to improve teacher professional learning opportunities in computing                               | Elena Prieto-Rodriguez |
| Stressed Out! Associations between Paternal Mental Health, the Father-Child Relationship and Children's Emotional Control | Emily Freeman          |
| Exploring why people approximate Benford's law  | Bruce Burns            |
| Human Scheduling of Perceptual Decisions  | Ami Eidels             |

**Lunch break**

**12pm-1pm**

**Session 4**

**1pm-2pm**

|   |                            |
|---|----------------------------|
| Ambiguity aversion in qualitative contexts: A vignette study  | Joshua White               |
| Invariant information preferences across reward valence and magnitude   | Shi Xian Liew              |
| Pursuing Multiple Goals under Time Pressure: A Computational Investigation  | Scott Herbert              |
| Investigating the time course of feature processing in consumer-like choices  | Jon-Paul Cavallaro         |
| A Statistical Foundation for Derived Attention  | Samuel Paskewitz           |
| Joint computational modeling of human EEG and behavior reveal individual differences in cognition during perceptual decision making | Michael D. Nunez           |
| Does jumping occur during the information accumulation process?   | Amir Hosein Hadian Rasanan |
| Testing instructions on five levels of speed-accuracy trade off   | Tom Narraway               |

**Session 5**

**2pm-3pm**

|   |                     |
|---|---------------------|
| Belief Updating as Learning: Comparing Healthy Controls and Schizophrenia Patients on a Probabilistic Learning Task | Ricardo Romeu-Kelly |
| Developing a Model of the Complex Interruption Process Between Clinicians in a Hospital Ward                        | Emma Knight         |
| Cognitive Workload and Performance of Competitive and Collaborative Teams   | Murray Bennett      |
| Using Past and Present Indicators of Human Workload to Explain Variance in Human Performance                        | Zach Howard         |



A hierarchical Bayesian analysis of psychometric curve changes in a vigilance task: an online replication Shannon Gyles  
 Generative models of behaviour and self-report during mind wandering Guy Hawkins

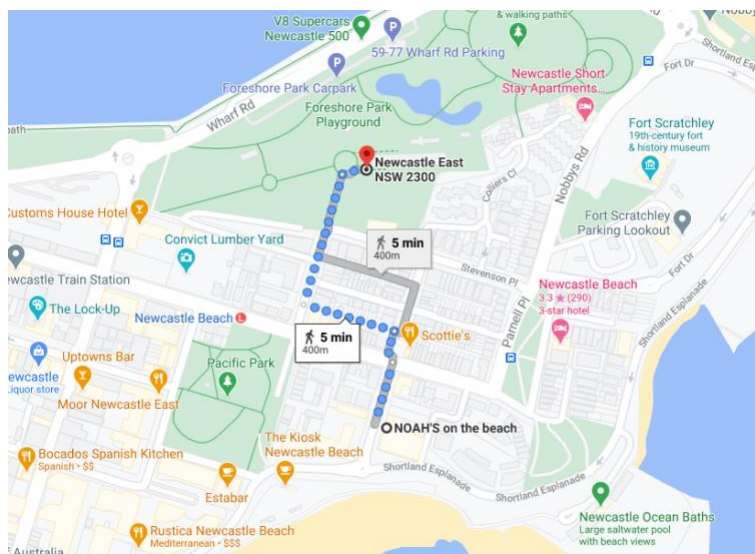
**Session 6**  
**3pm-4pm**

Modelling Memory for WHERE Simon Dennis  
 Access to autobiographical memory: A cross-cultural investigation Asheek Shimul  
 A critical test of the two-high-threshold model of the recognition memory ranking task: Analysis of hazard functions John Dunn  
 A critical test of eyewitness identification errors: Is guessing the culprit? Kym McCormick  
 Comparing the Generalized Estimating Equations (GEE) to Mixed Analysis of Variance(ANOVA) Using Experimental Longitudinal Data of Depression Hojjatollah Farahani  
 Strategic responding in false recognition tasks and the role of reasoning in memory Chris Donkin  
 Free Associations as Steady States in Dynamic Spaces Kevin Shabahang

**Close of day 1 presentations**  
**4pm**

**Informal gathering**  
**5pm**

AMPC soccer, games, and a simple bite to eat!  
 Tram Sheds, Foreshore Park, Newcastle (5 minute walk from Noah's).






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**Day 2**
**Friday 11 February 2021**


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| <i>Session</i>   | <i>Title</i>   | <i>Presenting author</i> |
|------------------|--|--------------------------|
| <b>Session 7</b> |  |                          |
| <b>9am-10am</b>  |  |                          |
|                  | Is it auto or manual? Acquiring and using recommendations from a decision aid  | Garston Liang            |
|                  | A Bayesian multi-level modelling approach to studying individual differences in automatic imitation                              | Alysha Nguyen            |
|                  | Adapting task difficulty using the detection response task   | Alexander Thorpe         |
|                  | Exploiting Neurometrics to Design Intelligent Adaptive Systems for Efficient Air Traffic Control                                 | Alka John                |
|                  | Modelling Pedestrian Behavior  | Andrew Heathcote         |
|                  | The Time Course of Composite Face Processing   | Daniel R. Little         |
|                  | The impact of father-child rough-and-tumble play and child cognitive outcomes  | Erin Robinson            |
| <b>Session 8</b> |  |                          |
| <b>10am-11am</b> |  |                          |
|                  | Distance Functions and Scoring Functions in IRT Models   | Michael Smithson         |
|                  | An Overview of Scoring Categorical Data Using Reciprocal Averaging   | Ting-Wu Wang             |
|                  | Four models of ordered, symmetric associations.  | Jeremy Thomas            |
|                  | Particle Metropolis within Gibbs: An R package for Bayesian Hierarchical Modelling   | Reilly Innes             |
|                  | A cortical-depth-dependent analysis of bottom-up and top-down driven fingertip maps in human somatosensory cortex measured at 7T | Ashley York              |
|                  | How do we choose our giants? Perceptions of replicability in psychological science   | Manikya Alister          |



**Session 9**

**11am-12pm**

|  |                   |
|--|-------------------|
| The evolution of category systems within and between learners  | Vanessa Ferdinand |
| Statistics vs. semantics: Project similarity bias and variance neglect in forecast metric evaluation | Shir Dekel        |
| Social meta-inference and the evidentiary value of consensus   | Keith Ransom      |
| Facial shape provides a valid cue to sociosexuality in men but not women                             | Ian Stephen       |
| Using General AI Planner to Understand Human Problem-Solving on Tower of London                      | Chenyuan Zhang    |
| The Cost of Thinking   | Ben Newell        |

**Lunch break**

**12pm-1pm**

**Open discussion**

**1pm-2pm**

Outcomes and benefits of mathematical psychology research for industry and the community.

**Business meeting**

**2pm-3pm**

**Close of day 2**

**3pm**