

Below are some details about the four grants funding the positions currently being advertised in the UNSW Cognition Lab. To apply for these positions please go to:

<http://external-careers.jobs.unsw.edu.au/cw/en/job/496570/postdoc-research-associate>

Project 1: Chief Investigators: Associate Professor Chris Donkin and Professor Ben Newell

Title: Evidence-accumulation models of external influences on decision-making.

Summary: This project applies the evidence-accumulation computational framework of decision-making to answer an enduring theoretical and practical question: how do simple interventions affect our choices? A suite of theory-driven experiments, techniques for testing the robustness of empirical effects, and evidence-accumulation models will provide a characterization of how, why and when simple external factors exert their influence on decision-making.

Project 2: Chief Investigators: Professor Brett Hayes, Associate Professor Danielle Navarro and Associate Professor Charles Kemp

Title: The dog that didn't bark: A Bayesian account of reasoning from censored data

Summary: This project aims to develop and test new computational theories of inductive reasoning and judgment under uncertainty. Specifically, we examine the cognitive mechanisms that allow people to draw inferences based on evidence that has been selectively sampled leading to “censoring” or exclusion of potentially relevant data. The model will be tested through an extensive program of experimental investigation and computational modelling. The anticipated benefits include an enhanced understanding of human inference, especially in domains such as the evaluation of forensic or financial evidence, where data censoring and selective sampling of evidence is common.

Project 3: Chief Investigators: Associate Professor Danielle Navarro and Professor Ben Newell

Title: The Psychology of (not) wanting to know

Summary: Why do people sometimes pursue entirely useless information, but at other times engage in deliberate ignorance - actively avoiding new information? This project combines experimental, survey and computational work to deliver insight into these paradoxical decision-making behaviours. We build on significant recent advances in understanding how reinforcement learning, anticipation and discounting combine to determine when people do and do not want to know. The expected outcome is a psychologically plausible computational process model that explains information preference across a wide range of decision-making problems.

Project 4: Chief Investigators: Professor Brett Hayes, Professor John Dunn and Professor Michael Lee

Title: Towards an integrated model of reasoning and reasoning development.

Summary: This project examines two central issues in the cognitive psychology of reasoning; what are the core cognitive processes that underlie different forms of reasoning, and how do these develop? A signal detection framework will be used to derive computational models of how people draw inferences in various reasoning tasks (e.g. deduction, induction). These will be tested experimentally and through Bayesian computational modeling. We will also carry out a systematic investigation of developmental change in reasoning processes. The expected result will be a more principled and comprehensive model of reasoning in adults and children. This work will help to resolve long-standing debates about how humans reason and will guide the development of more effective methods for teaching reasoning.

Additional Details about the Chief Investigators can be found here:

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