# Danielle Navarro

Associate Professor, School of Psychology, UNSW Sydney

✉ d.navarro@unsw.edu.au  ☏ 0421 488 402

⌂ djnavarro  🐦 djnavarro  🌐 compcogscisydney.org

## Biography, education & employment

I was awarded my Ph.D. 15 years ago (April, 2003) at the University of Adelaide. In 2006 I was appointed as Lecturer, promoted to Senior Lecturer in 2009 and Associate Professor in 2013 at the University of Adelaide. I held an ARC Australian Research Fellowship from 2007 to 2012 and an ARC Future Fellowship from 2012-2016. From January 2016 I was appointed to an Associate Professor position at the University of New South Wales as full time academic staff.

## Research outline

My research interests lie within the field of computational cognitive science - I study the mathematical and computational basis for human intelligence, with a view to connecting this to animal and machine intelligence. With this in mind, my work covers a wide range of topics in psychology. I have made substantial contributions to understanding basic information processing (associative learning, similarity, reaction time), higher order cognition (categorisation, reasoning, decision making) and the social nature of human intelligence (iterated learning, language evolution, cultural evolution). Additionally, because of my interests in the nature of inference and learning, my substantive theoretical interests have expanded to cover topics in research methodology (statistics education, robust inference, model selection)

I have published extensively in the top theoretical and experimental journals in psychology, including 5 papers in *Psychological Review* (generally considered the top theoretical journal in the field), with many other papers published in the top journals in cognitive and experimental psychology (e.g., *Journal of Experimental Psychology: General*, *Cognitive Psychology*, *Cognitive Science*). All of these journals are Q1 Ranked according to the Science Journal Reports metric (SJR).

Bibliometric summary:

- I have published 128 peer reviewed journal articles, scholarly book chapters and conference proceedings papers. The complete list of papers is available on my website here.
- According to Google Scholar my h-index is 25 and my work has been cited 2626 times.

## Teaching profile

An overview of my teaching profile is here and a complete listing of my teaching history including all student evaluations is available here. Across my teaching career the median "broad approval rating" in my student evaluations is 97%. I currently teach the following classes:

- Minds and Machines (PSYC4103) is a 4th year elective class that mixes programming exercises with readings on cognitive science, run across 9 two-hour workshops.
- R for Psychological Science (PSYC3361) is a 3rd year introduction to programming for psychology students that runs twice a year. Each class is run over 6 two-hour workshops.
- I teach a 6 lecture series within the Perception and Cognition (PSYC2071) class
- I teach a 6 lecture series within the Cognitive Science class (PSYC3211).

## Research training

I currently supervise one postdoctoral researcher and three Ph.D. students. Previously I have supervised 5 postdoctoral researchers, 10 PhD students and 21 honours/masters students. Most of my PhD students tend to go on take postdoctoral research positions (7/10), with two taking positions in industry and one undertaking further study. Postdoctoral researchers in my lab either gone on to take academic posts (2/5), research fellowships (2/5) or taken jobs in industry (1/5).

Additionally I have organised a number of workshops providing training for Ph.D. students to learn the R programming language. Two recent examples:

- Tidyverse for beginners (August 22 2018)
- Complex human data summer school (December 9-14 2018)

## Research funding

I have won eight national competitive grants (total value $3m) and have held continuous ARC funding since 2004:

- Hayes, BK, Navarro, DJ & Kemp, C (2019-2021). The dog that didn't bark:A Bayesian account of reasoning from censored data. ARC Discovery Project DP190101224 Value: $390,000
- Navarro, DJ & Newell, BR (2019-2021). The psychology of (not) wanting to know. ARC Discovery Project DP190101076. Value: $430,000
- Navarro, DJ & Lee, MD (2015-2018). Learning and choosing in a complex world. ARC Discovery Project DP150104206. Value: $330,000
- Navarro, DJ (2012-2016). How is information represented in the mind? Learning structured mental representations from data. ARC Future Fellowship FT110100431. Value: $608,000
- Navarro, DJ, Perfors, AF & Tenenbaum, J (2011-2014). How are beliefs altered by data? Robust Bayesian models for human inductive inference. ARC Discovery Project DP110104949. Value: $445,000.
- Navarro, DJ (2007-2011). Hierarchical Bayesian models for human conceptual learning. ARC Discovery Project DP0773794. Value: $510,000.
- Navarro, DJ, Lee, MD & Maio Mackay, M (2005-2007). Psychological user profiling in the telecommunications industry. ARC Linkage Project LP0562206. Value: $449,000.
- Lee, MD & Navarro, DJ (2004-2006). Extending cognitive models to account for individual differences. ARC Discovery Project DP0451793. Value: $230,000.

In addition I have held a number of smaller research grants, contracts and consultancies. Those valued at $10,000 or more are listed below:

- Martire, KM, Towler, A & Navarro, DJ (2018). Using tournaments to understand the limits and acquisition of expertise in forensic sciences. Value: $20,000
- Martire, KM, Newell, BR & Navarro DJ (2018). Mind-environment interactions in probability judgments. UNSW Gold Star Award $40,000.
- Ma-Wyatt, A, Burns, N, Dunn, J & Navarro, DJ (2014). Equipment grant. School of Psychology RIBG Large Grant Scheme. Value: $27,000.
- Navarro, DJ (2007). Decision-making experiments in an oil & gas context. Research agreement with the Australian School of Petroleum, University of Adelaide; original funds from Exxon & Santos. Value: $35,000.

- Navarro, DJ (2007). Review of the social network analysis literature. Research contract with Defense Research and Development Canada. Value: $22,000.
- Navarro, DJ (2005). Human similarity judgments on email. Research contract with Australian Defence Science and Technology Organisation. Value: $33,000.

## Awards, fellowships & prizes

During my career I have won a number of awards and fellowships for my research and teaching:

- Dani Navarro and Rachel Stephens: Executive Dean's Teaching and Learning Prize, 2013. Awarded by the Faculty of Health Sciences at the University of Adelaide. For work on psychological research methods and statistics teaching.
- Dani Navarro: ARC Future Fellowship (2012-2015)
- Dani Navarro: ARC Australian Research Fellowship (2007-2011)
- Dani Navarro: William K Estes Award, 2007, given by the international Society for Mathematical Psychology for contributions to mathematical psychology by an early career researcher.
- Dani Navarro: ARC Australian Postdoctoral Fellowship (2004-2006)
- Dani Navarro: Frank Dalziel prize for best PhD dissertation at University of Adelaide in behavioural science.

In addition, my students and postdoctoral researchers have won a number of awards for work that I assisted with or contributed to:

- Belinda Xie (co-authors: Brett Hayes & Dani Navarro): Best student presentation, EPC 2018
- Simon De Deyne, Amy Perfors and Dani Navarro: Best paper award CoLing 2016
- Wai Keen Vong (co-authors: Drew Hendrickson, Amy Perfors and Dani Navarro) Marr prize for best student first author paper CogSci 2016
- Steven Langsford (co-authors: Amy Perfors, Drew Hendrickson, Lauren Kennedy and Dani Navarro) Best student presentation, EPC 2015
- Dinis Gokaydin (supervisors, Dani Navarro, Amy Perfors, Anna Ma-Wyatt): Dean'ss commendation for PhD thesis excellence, University of Adelaide, 2015

## Service roles

I have held three major editorial roles (associate editor level) within top journals in the field, as well as taken on smaller roles in several other journals. The three major roles are:

- *Open Mind: Discoveries in Cognitive Science* (2016-present)
- *Behavior Research Methods* (2014-2016)
- *Cognitive Science* (2011-2013)

I have organised several small workshops and two national level conferences:

- *Australasian Experimental Psychology Conference*. April 2013.
- *Australian Mathematical Psychology Conference*. February 2012.

At the University of Adelaide I held several substantial administrative roles (e.g., chair of school research committee). My profile at UNSW is more modest:

- School colloquium organiser
- School equity committee
- Involvement in UNSW LGBTQI Ally network (e.g Wear it Purple event)

Over the last 12 months I have become more active in community outreach work. In particular, I am the co-founder of R-Ladies Sydney, a group that runs monthly workshops aimed at encouraging gender diversity within the R community, and have been active in the rOpenSci organisation, was one of the founders of the Sydney open research network. Further details regarding my service work are here

[Last Updated: 8th September 2018]