

CURRICULUM VITAE AND PUBLICATIONS

PART 1

1a. Personal details				
Full name	<i>Title</i>	<i>First name</i>	<i>Second name(s)</i>	<i>Family name</i>
	Dr	Alexander	Harwood	Taylor
Present position	ICREA Research Professor			
Organisation/Employer	ICREA, Pg. Lluís Companys 23, Barcelona, Spain			
Contact Address	Institut de Neurociències, Universitat Autònoma de Barcelona,			
	08193, Bellaterra, Barcelona, Spain			
		Post code	08193	
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Email	alex.taylor@icrea.cat			
Personal website (if applicable)	NA			

1b. Academic qualifications

2010 Ph.D., Psychology, University of Auckland, New Zealand.

2004 BA (Hons) 1st class, Biological Sciences, Oxford University, United Kingdom.

1c. Professional positions held

2023: ICREA Research Professor, Universitat Autònoma de Barcelona

2019: Associate Professor, University of Auckland

2015: Co-Director, Language, Culture and Cognition Lab, University of Auckland.

2014: Rutherford Discovery Fellow, Royal Society, New Zealand.

2014: Senior Lecturer, School of Psychology, University of Auckland.

2012: Lecturer, School of Psychology, University of Auckland.

2010-12: Post-Doctoral Research Fellow, University of Cambridge.

1d. Present research/professional speciality

My research is focused on comparing and understanding the similarities and differences between human, animal and machine minds. At the heart of my research program is an experimental framework I term the signature testing approach (Taylor et al. 2022). This uses the information processing errors, biases and other patterns agent exhibits to make inference about the content of different minds. This approach generates powerful intelligence tests that strongly constrain the possible cognition an agent is using and allows for the comparison of both biological and artificial intelligences. I also have a keen interest in understanding the role information processing errors and biases play in human decision-making. My lab works with a wide range of study species, including kea, crows, dogs, children and adult humans. My papers have been cited 3555 times, my H index is 35 and my i10 is 52.

1e. Total years research experience	12 years (post PhD)
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1f. Professional distinctions and memberships (including honours, prizes, scholarships, boards or governance roles, etc)

Awards and Distinctions

- 2023 ICREA Research Professorship
- 2020: Altmetric Score of 1828 for Bastos & Taylor (2020) (Top 0.00001% of articles ever tracked by Altmetric, ranked 1889 out of 15.7 million (approx.))
- 2019: A 2012-2018 NZ Government PBRF Score of 'A'
- 2018: A Top 100 Paper Award from *Scientific Reports* for Jelbert *et al.* (2018) (Paper ranked 81st/17,000)
- 2016: Best Article Award from *Learning & Behavior* for Logan *et al.* (2016)
- 2015: Prime Minister's MacDiarmid Emerging Scientist Award, Royal Society, NZ

- 2015: Early Career Research Excellence Award, University of Auckland
- 2014: Rutherford Discovery Fellow, Royal Society, New Zealand
- 2013: Stratus Media SAVVY Scholar
- 2010-2012: Junior Research Fellow, Corpus Christi College, University of Cambridge
- 2006-2009: Commonwealth PhD Scholarship
- 2003-2004: Christchurch College Scholar, Oxford University

Total grants awarded: NZ\$ 10,943,234 (EUR 6,626,108). Grants awarded as PI NZ\$ 6,513,000 (EUR 4,072,736)

Grants include:

- 2022, PI, ERC Consolidator Grant (NZ\$ 3,360,265/EUR 2,101,920)
- 2020: PI, New Zealand Marsden Fund (NZ\$ 869,000)
- 2020: Co-PI, Templeton World Charity Foundation Grant (NZ\$914,256)
- 2018: Co-PI, Templeton World Charity Foundation Grant (NZ\$336,362)
- 2015: Prime Minister's MacDiarmid Emerging Scientist Award (NZ\$150,000)
- 2014: Rutherford Fellowship, Royal Society of New Zealand (NZ\$ 800,000)
- 2014: PI, National Geographic Society/Waitt Grant (NZ\$ 14,346)
- 2013: Named Senior Post-doc, European Research Council grant (NZ \$3,571,866)
- 2009: PI, Cogito Foundation Award (NZ\$ 69,486)
- 2009: Named Postdoctoral researcher, New Zealand Marsden Fund (NZ\$ 706,667)

Commentaries/articles on my work in *Science*, *Nature*, *PNAS* and *Current Biology*

1. Morell V. (2020) New Zealand birds show humanlike ability to make predictions
<https://www.sciencemag.org/news/2020/03/new-zealand-birds-show-humanlike-ability-make-predictions> **Science** 3/3/20
2. Bundell S. (2020) The parrots that understand probabilities
<https://www.nature.com/articles/d41586-020-00610-7> **Nature** 3/3/20.
3. Bugnyar, T. (2019) Tool Use: New Caledonian crows engage in mental planning
Current Biology 29(6), R200 - R202.
4. Rutz C, Hunt G.R., & St Clair J.J.H (2018) Corvid Technologies: How Do New Caledonian Crows Get Their Tool Designs? **Current Biology** 28, R1096–R1119
5. Carey J (2018) Animal cognition research offers outreach opportunity **PNAS** 115 (18) 4522-4524; <http://www.pnas.org/content/115/18/4522>
6. Morell V (2013). Into the mind of birds. **Science** 341, 6141: 22-25.
7. Seed A, Boogert N (2013). Animal cognition: an end to insight? **Current Biology** 23, R67.
8. Morell V (2012). Whodunnit? Crows ask that question too, **Science** online 17/9/12.
<http://news.sciencemag.org/evolution/2012/09/whodunit-crows-ask-question-too?rss=1>
9. Telis G (2010). Clever crows, complex cognition? **Science** online 21/04/10.
<http://news.sciencemag.org/physics/2010/04/clever-crows-complex-cognition>
10. Clayton N (2007). Animal cognition: crows spontaneously solve a metatool task.
Current Biology 17, R894-R895.

Professional Activities

Reviewer for Science **IF: 31.2**, Reviewer for PNAS **IF: 10.6**, Review for Philosophical Transactions of the Royal Society **IF: 6.4**, Reviewer for Proceeding of the Royal Society: B **IF: 5.8**, Reviewer for Scientific Reports **IF 4.8**, Reviewer for PLoS One **IF: 4.2**, Reviewer for Evolution and Human Behaviour **IF: 4.3**, Reviewer for Biology Letters **IF: 3.9**, Reviewer for Animal Behaviour **IF: 3.4**, Reviewer for Animal Cognition **IF: 3.1**, Reviewer for Behavioural Ecology & Sociobiology **IF: 3.2**, Reviewer for Journal of Experimental Psychology: Animal Behavioural Processes: **2.4**, Reviewer for Brain, Behaviour and Evolution **IF: 2.2**, Reviewer for Biological Journal of the Linnean Society **IF: 2.2**, Reviewer for Learning & Behaviour **IF: 2**, Reviewer for Journal of Comparative Psychology **IF: 1.7**, Reviewer for Biology and Philosophy **IF: 1.2**

1g. Total number of <i>peer reviewed</i> publications and patents	Journal articles	Books, book chapters, books edited	Conference proceedings	Patents
	78	3	0	0

PART 2

2a. Research publications and dissemination

Peer-reviewed journal articles

Selected publications include:

- **Taylor, AH**, Bastos, APM, Brown R, Allen C. (2022) The signature-testing approach to mapping biological and artificial intelligences *Trends in Cognitive Sciences* **IF 15.4**
- Miller, R., Lambert, M. L., Frohnwieser, A., Brecht, K. F., Bugnyar, T., Crampton, I., **Taylor AH** ... & Clayton, N. S. (2022). Socio-ecological correlates of neophobia in corvids. *Current Biology*, 32(1), 74-85. **IF: 9.97**
- Bastos, APM, Neilands, PD, Hassall, RS, Lim, BC, & **Taylor, AH** (2021). Dogs Mentally Represent Jealousy-Inducing Social Interactions. *Psychological Science*, 0956797620979149. **IF 7.3**
- Bastos APM, & **Taylor AH** 2020 Kea show three signatures of domain-general probabilistic reasoning. *Nature Communications* 11: 828. **IF 12.3**
- Boeckle, M, Schiestl, M., Frohnwieser, A, Gruber, R, Miller, R., Suddendorf, T, **Taylor AH** & Clayton, NS (2020). New Caledonian crows plan for specific future tool use. *Proceedings of the Royal Society B*, 287(1938), 20201490. **IF 5.6**
- Horn, L, Bugnyar, T, Griesser, M, Hengl, M., Izawa, EI, Oortwijn, T., **Taylor, A H....** et al. (2020). Sex-specific effects of cooperative breeding and colonial nesting on prosociality in corvids. *Elife*, 9, e58139. **IF 7.1...**
- Neilands P, Claessens S, Ren I, Hassall R, Bastos APM., & **Taylor AH** 2020 Contagious yawning is not a signal of empathy: no evidence of familiarity, gender, or prosociality biases in dogs. *Proceedings of the Royal Society B* 287(1920), 20192236 **IF 5.6**
- Neilands, P, Hassall R, Derks, F, Bastos, APM, **Taylor, AH** 2020 Watching eyes do not stop dogs stealing food: evidence against a general risk-aversion hypothesis for the watching-eye effect. *Scientific Reports* 10, 1153. **IF 4.5**
- Bastos, APM, **Taylor, AH** 2019 Kea (*Nestor notabilis*) represent object trajectory and identity. *Scientific Reports* 9, 19759. **IF 4.5**
- McCoy, DE, Schiestl, M, Neilands, P, Hassall R, Gray RD, & **Taylor, AH** 2019 New Caledonian crows behave optimistically after using tools *Current Biology* 29(4), 686-692. **IF: 9.97**
- Gruber R, Schiestl M, Boeckle M, Frohnwieser A, Miller R, Gray RD, Clayton NS, **Taylor AH**, 2019 New Caledonian crows use mental representations to solve metatool problems, *Current Biology* 29(4), 686-692. **IF: 9.97**
- Jelbert, SA, Miller R, Schiestl M, Boeckle M, Cheke LG,, Gray RD, **Taylor AH**, Clayton NS, 2019 New Caledonian crows infer the weight of objects from observing their movements in a breeze. *Proceedings of the Royal Society B* 286, 1894: 20182332. **IF 5.61**
- Jelbert, SA., Hosking, RJ., **Taylor, AH.**, & Gray, RD. 2018. Mental template matching is a potential cultural transmission mechanism for New Caledonian crow tool manufacturing traditions. *Scientific reports*, 8(1), 8956. **IF 4.5**
- Redshaw J, **Taylor AH**, Suddendorf T. 2017. Flexible planning in ravens? *Trends in Cognitive Sciences* 21, 821-822. **IF 15.4**
- **Taylor AH** 2016. Brainy birds. *Current Biology* 26, R650-R652. **IF 9.97.**
- Huvneers C, Holman D, Robbins R, Fox A, Endler JA, **Taylor AH** 2015. White sharks exploit the sun during predatory approaches. *American Naturalist* 185,

562-570. **IF: 5.3**

- **Taylor AH**, Cheke LG, Waismeyer A, Meltzoff AN, Miller R, Gopnik A, Clayton NS, Gray RD 2014. Of babies and birds: Complex tool behaviours are not sufficient for the evolution of the ability to create a novel causal intervention. *Proceedings of the Royal Society of London, B* 281, 20140837. **IF 5.61**
- **Taylor AH** 2014. Corvid Cognition *Wiley Interdisciplinary Reviews: Cognitive Science* 5, 361-372. **IF: 1.49**
- **Taylor AH**, Miller R, Gray RD 2012. New Caledonian crows reason about hidden causal agents. *Proceedings of the National Academy of Sciences* 109, 16389-16391. **IF: 10.6**
- **Taylor AH**, Knaebe B, Gray RD 2012. An end to insight? New Caledonian crows can spontaneously solve problems without planning their actions. *Proceedings of the Royal Society of London B*, B 279, 4977-4981. **IF 5.61**
- **Taylor AH**, Hunt GR, Gray RD 2012. Context-dependent tool use in New Caledonian crows. *Biology Letters* 8, 205-207. **IF: 3.91**
- **Taylor AH**, Elliffe D, Hunt GR, Gray RD 2010. Complex cognition and behavioural innovation in New Caledonian crows. *Proceedings of the Royal Society of London, B* 277, 2637-2643. **IF: 5.83**
- **Taylor AH**, Gray RD 2009. Animal cognition: Aesop's fable flies from fiction to fact. *Current Biology* 19, R731-R732. **IF: 9.97**
- **Taylor AH**, Hunt GR, Medina FS, Gray RD 2009. Do New Caledonian crows solve physical problems through causal reasoning? *Proceedings of the Royal Society of London, B* 276, 247-254. **IF 5.61**
- **Taylor AH**, Hunt GR, Holzhaider JC, Gray RD 2007. Spontaneous metatool use by New Caledonian crows. *Current Biology* 17, 1504-1507. **IF: 9.97**

Peer reviewed books

Peer reviewed book chapters, books edited

Neilands P. & **Taylor A.** (2018) Trap-Table. In: Vonk J., Shackelford T. (eds) Encyclopedia of Animal Cognition and Behavior. Springer, Cham Visalberghi E, Sabbatini G,

Taylor AH, Hunt GR 2017. Cognitive insights from tool use in nonhuman animals. APA handbook of comparative psychology: Perception, learning, and cognition, Vol. 2., APA, Washington, DC. Pp. 673-701.

Hunt GR, Gray RD, **Taylor AH** 2013. Why is tool use rare in animals? *Tool Use in Animals: Cognition and Ecology*. Eds. Sanz CM, Call J, Boesche C. CUP. Pp. 89-118

Refereed conference proceedings

Patents

Other forms of dissemination (reports for clients, technical reports, popular press, etc)

Media: I have worked with documentary makers, journalists and science communicators to create videos explaining my research, which have been viewed over 200 million times globally. This number comes from videos on YouTube and Facebook, where clips of my research have been viewed over 75 million times, and the three documentaries that have featured my work, the PBS/National Geographic documentary "A Murder of Crows" and the BBC documentary "Animal Minds" which reached a global audience of 55 and 60 million viewers respectively and most recently the BBC 2 show "Chris Packham's Animal Einsteins". I have also received international media attention from at least one, if not many, of the following media outlets for over 20 of my publications: Reuters, Science, BBC, Wired, New Scientist, Nature, National Geographic, the Guardian, Science Daily, the Huffington Post and the New York Times.

Examples of media responses to:

Bastos & Taylor 2020 Nature Communications (2020) 11: 828.

- *Forbes* "Parrots Make Predictions Based On Statistical Probabilities" 3/3/20

McCoy et al 2019 Current Biology (2019) 29(16), 2737-2742.

- *Nature* 'To lift a crow's mood, give it a toolkit' 18/19

Jelbert et al 2016, Biology Letters 12, 20150871.

- *New York Times* "Crows clever enough to learn a shell game" 29/2/16

Jelbert et al 2014, PLoS ONE 9, e92895

- *The Guardian* "Crows' reasoning ability rivals that of seven-year-old humans" 26/03/14

Taylor et al 2012, PNAS 109, 16389-16391

- *Science* (17/9/12) "Whodunnit? Crows ask that question too"

Taylor et al 2010, Proceedings of the Royal Society, B, 277, 2637-2643

- *BBC* "Clever New Caledonian crows can use three tools", 21/04/10

Taylor et al 2010, PLoS ONE 5, e9345.

- *Wired* "Brainy crows finally stumped by intelligence test" 24/02/10

Taylor et al 2007, Current Biology 17, 1504-1507

- *Guardian* (UK) "Crows match apes in skilful tool use", 16/8/07