Amalia P. M. Bastos

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Citizenships: Portugal, Brazil | **Residency:** New Zealand | **Current Location:** USA

Academic Positions

February 2023 - Present **Johns Hopkins University**, Baltimore, MD, USA
Provost's Postdoctoral Fellow
Department of Psychological and Brain Sciences
Advisor: Dr. Christopher Krupenye

2022 - 2023 **University of California San Diego**, San Diego, CA, USA
Postdoctoral Scholar & Adjunct Lecturer
Department of Cognitive Science
Advisor: Dr. Federico Rossano

2021 - 2022 **The University of Auckland**, Auckland, New Zealand
Research Fellow
School of Psychology & School of Computer Science
Advisors: Dr. Alex Taylor & Dr. Michael Witbrock

Education

2017 - 2021 **The University of Auckland**, Auckland, New Zealand
Ph.D. in Psychology (*awarded with no corrections*)
Advisor: Dr. Alex Taylor Award Date: 03/05/2022

2013 - 2016 **University of Oxford**, Oxford, United Kingdom
B.A.(Hons) in Biological Sciences (*first class honours*)
*Studied under a full scholarship.
Honours Thesis Advisor: Dr. Alex Kacelnik

Publications

[* denotes equal contribution | key publications in blue | click ↗ to access the papers]

2023

18. **Bastos, A. P. M**. (2023) Crows make optimal choices based on relative probabilities. ***Learning & Behavior***. (IF: 1.80) ↗
17. **Bastos, A. P. M.**, & Rossano, F. (2023). Soundboard-using pets? Introducing a new global citizen science approach to interspecies communication. ***Interaction Studies***, 24(2), 313-336. (Citations: 1, IF: 1.51) ↗

16. Hassall, R. S., Neilands, P., Bastos, A. P. M., & Taylor, A. H. (2023). Dogs assess human competence from observation alone and use it to predict future behaviour. ***Learning and Motivation***, 83, 101911. (Citations: 1, IF: 1.45) ↗
15. Armitage, K. L., Suddendorf, T., Bulley, A., **Bastos, A. P. M.**, Taylor, A. H., & Redshaw, J. (2023). Creativity and flexibility in young children's use of external cognitive strategies. ***Developmental Psychology***, 59(6), 995-1005. (Citations: 1, IF: 3.85) ↗
14. Smith, G. E., **Bastos, A. P. M.**, Evenson, A., Trottier, L., & Rossano, F. (2023). Use of Augmentative Interspecies Communication (AIC) devices in animal language studies: A review. ***WIREs Cognitive Science***, e1647. (Citations: 1, IF: 3.48) ↗

2022

13. Smith, G. E.*, **Bastos, A. P. M.***, Chodorow, M., Taylor, A. H., & Pepperberg, I. M. (2022). Contrafreeloading in kea (*Nestor notabilis*) in comparison to grey parrots (*Psittacus erithacus*). ***Scientific Reports***, 12, 17415. (Citations: 5, IF: 4.99) ↗
12. Taylor, A. H., **Bastos, A. P. M.**, Brown, R. L, Allen, C. (2022) The signature-testing approach to mapping biological and artificial intelligences. ***Trends in Cognitive Sciences***, 26(9), 738-750. (Citations: 15, IF: 15.40) ↗
11. **Bastos, A. P. M.**, Nelson, X. J., & Taylor, A. H. (2022) From the lab to the wild: How can captive studies aid the conservation of kea (*Nestor notabilis*)? ***Current Opinion in Behavioral Sciences***, 45, 101131. (Citations: 5, IF: 4.47) ↗

2021

10. **Bastos, A. P. M.**, Wood, P. M., & Taylor, A. H. (2021) Are parrots naïve realists? Kea behave as if the real and virtual worlds are continuous. ***Biology Letters***, 17(9), 20210298. (Citations: 4, IF: 3.81) ↗
9. **Bastos, A. P. M.***, Horváth, K.*, Webb, J., Wood, P. M., & Taylor, A. H. (2021) Self-care tooling innovation in a disabled kea (*Nestor notabilis*). ***Scientific Reports***, 11, 18035. (Citations: 9, IF: 4.99) ↗
8. **Bastos, A. P. M.**, Wood, P. M., & Taylor, A. H. (2021) Kea (*Nestor notabilis*) fail a loose-string connectivity task. ***Scientific Reports***, 11, 15492. (Citations: 5, IF: 4.99) ↗
7. **Bastos, A. P. M.,** Neilands, P., Hassall, R., Lim, B. C., & Taylor, A. H. (2021) Dogs mentally represent jealousy-inducing social interactions. ***Psychological Science***, 32(5): 646-654. (Citations: 5, IF: 4.99) ↗

2020

6. **Bastos, A. P. M.**, & Taylor, A. H. (2020) Macphail's null hypothesis of vertebrate intelligence: Insights from avian cognition. ***Frontiers in Psychology***, 11, 1692. (Citations: 10, IF: 2.99) ↗
5. **Bastos, A. P. M.**, & Taylor, A. H. (2020) Kea show three signatures of domain-general statistical inference. ***Nature Communications***, 11, 828. (Citations: 50, IF: 17.69) ↗
4. Neilands, P., Claessens, S., Ren, I., Hassall, R., **Bastos, A. P. M.**, & Taylor, A. H. (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: Biological Sciences***, 287, 20192236. (Citations: 27, IF: 5.53) ↗
3. Neilands, P., Hassall, R., Derks, F., **Bastos, A. P. M.**, & Taylor, A. H. (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. (Citations: 2, IF: 4.99) ↗

2019

2. **Bastos, A. P. M.** & Taylor, A. H. (2019) Kea (*Nestor notabilis*) represent object trajectory and identity. ***Scientific Reports***, 9, 19759. (Citations: 12, IF: 4.99) ↗
1. Heaney, M., **Bastos, A. P. M.**, Gray, R. D., & Taylor, A. H. (2019) Are kea prosocial? ***Ethology***, 126(2), 175–183. (Citations: 15, IF: 1.90) ↗

Upcoming Papers

Bastos, A. P. M.*, Claessens, S.*, Nelson, X. J., Welch, D., Atkinson, Q. D., & Taylor, A. H. (*under review*) Crowdsourcing and phylogenetic modelling reveal parrot tool use is not rare. Preprint available from bioRxiv ↗

Bastos, A. P. M., Evenson, A., Wood, P. M., Houghton, Z. N., Naranjo, L., Smith, G. E., Cairo-Evans, A., Korpos, L., Terwilliger, J., Ragunath, S., Paul, C., Hou, H., & Rossano, F. (*submitted*). How do soundboard-using dogs respond to human button presses? An investigation into label comprehension.

Bastos, A. P. M., Baggs, J., Allen, T., Nelson, X. J., & Taylor, A. H. (*under review*). Materials preferences in kea (*Nestor notabilis*).

Bastos, A. P. M., Evenson, A., Wood, P. M., Houghton, Z. N., Naranjo, L., & Rossano, F. (*in preparation*) Do soundboard-using dogs request help when faced with an impossible task?

Bastos, A. P. M., Houghton, Z. N., Naranjo, L., & Rossano, F. (*in preparation*). Soundboard-trained dogs produce intentional two-button combinations.

Bastos, A. P. M., & Krupenye, C. (*in preparation*) Evidence for secondary representations in scaffolded pretence play by a lexigram-trained bonobo.

Bastos, A. P. M., Foster, G. R., Wood, P. M., & Krupenye, C. (*in preparation*) Do dogs rationally infer the causes of failed actions?

Select Awards & Achievements

2023	**Provost's Postdoctoral Fellowship (2-year appointment)** **Johns Hopkins Office of the Provost, value: USD$165,873**
2023	Shortlisted by Branco Weiss Fellowship Society in Science (*top 10% of applicants*)
2022	ERC Consolidator Grant (*named collaborator and postdoctoral fellow, PI: Alex Taylor)* European Research Council, value: €2,051,921
2022	10th Most Downloaded Paper in Scientific Reports Ecology Collection ↗ For: "*Self-care tooling innovation in a disabled kea* (*Nestor notabilis*)"
2021	**Faculty of Science Strategic Initiative PhD Output Award** **The University of Auckland, value: NZD$4,000**
2021	Early Career Collaboration Enhancement Award Diverse Intelligences Summer Institute, value: USD$5,000
2019	Diverse Intelligences Summer Institute Alumnus Fellowship UCLA & Templeton World Charity Foundation, value: USD$4,000
2018	Diverse Intelligences Summer Institute Fellowship UCLA & Templeton World Charity Foundation, value: USD$2,830
2013	**Full CNPq-Oxford Undergraduate Scholarship** **University of Oxford, value: £116,000**

Select Media Coverage

"Endangered kea parrots learn to use touchscreen computers." *The Times.* ↗
"Bruce the parrot uses tools to survive despite a broken beak." *Smithsonian Magazine.* ↗
"Meet Bruce, the disabled kea who practices 'self care'." *Australian Geographic.* ↗
"Bruce is a parrot with a broken beak. So he invented a tool." *The New York Times.* ↗
"Pooch pride: Yes, dogs do get jealous, NZ study shows." *New Zealand Herald.* ↗
Chris Packham's Animal Einsteins: Masterminds, Ep. 1 on *BBC Two.* ↗
"Kea, Kaitiaki." *TVNZ1 Sunday.* ↗
"Study finds parrots weigh up probabilities to make decisions." *The Guardian.* ↗
"Parrots Make Predictions Based on Statistical Probabilities." *Forbes.* ↗
"Birds of Play." *New Zealand Geographic.* ↗

Select Talks, Presentations, & Posters

"Convergence in parrots and apes: Meet the kea (*Nestor notabilis*)" *April 24, 2024*
Ape Cognition and Conservation Initiative, Des Moines, USA
"Do dogs flexibly deploy coping strategies for self-control?" *April 11, 2024*
Comparative Cognition Conference 2024, Albuquerque, New Mexico, USA
"Of Animal Minds: Identifying Cognitive Mechanisms Across Species" *Oct. 26, 2023*
CCEP Group, Department of Psychology, University of Portsmouth
"Signature Testing and the Evolution of Intelligence" *Oct. 10, 2023*
Hare Lab, Department of Evolutionary Anthropology, Duke University
"The Problems of Different Brains and Different Minds: The Signature Testing Approach to the Evolution of Intelligence" *Oct. 6, 2023*
PBS Seminar Series, Johns Hopkins University, Baltimore MD, USA
"If I Could Talk to the Animals" *July 7, 2022*
Joseph Moore Museum of Earlham College, Richmond IN, USA
"Kea show three signatures of domain-general inference" *Nov. 26, 2021*
Kinds of Intelligence 3, University of Cambridge, UK
"What do we know about kea intelligence and how can we protect them?" *Oct. 7, 2021*
Royal Forest and Bird Protection Society of New Zealand
"Behaviour and complex cognition in kea parrots" *Oct. 6, 2021*
Comparative Cognition Lab, Department of Cognitive Science, UCSD
"The cognitive abilities of New Zealand's alpine parrot" *Sept. 30, 2021*
SBS Seminar Series, University of Canterbury, NZ
"Kea show three signatures of domain-general inference." *July 27, 2021*
CogSci Conference 2021: Comparative Cognition - Animal Minds
"Dogs mentally represent jealousy-inducing social interactions." *July 7, 2021*
Canine Science Forum 2021 [Poster]
"Kea show three signatures of domain-general statistical inference" *April 10, 2021*
28th Annual International Conference on Comparative Cognition
"Behaviour, cognition, and conservation of kea" *March 18, 2021*
Department of Conservation Workshop, Willowbank Wildlife Reserve, NZ
"Kea show three signatures of domain-general statistical inference" *Sept. 30, 2021*
ASSAB 2020 Conference
"Evolutionary aesthetics? Visual preferences in kea" *Sept. 7, 2019*
Diverse Intelligences Grantee Summit, University of St. Andrews, UK

Teaching Experience

Fall 2023	**Johns Hopkins University**, Guest Lecturer AS.200.238: Primate Minds, "Tool Use and Planning"
Summer 2022	**University of California San Diego**, Lecturer COGSCI 13: Cognition in the Wild
Spring 2022	**University of California San Diego**, Lecturer COGSCI 142: Animal Communication
May – December 2021	**The University of Auckland**, Graduate Teaching Assistant BIOSCI 337: Animal Behaviour
May – December 2021	**The University of Auckland**, Graduate Teaching Assistant BIO SCI 207: Adaptive Form and Function

Thesis & Research Mentorship

2023	Gavin Foster, SSHRC Graduate Scholar & Michael Smith FF Scholar, Carlton University, visiting Master's student at Johns Hopkins University Visiting Research Project: *Do dogs rationally infer the causes of failed actions?*
2023	Kaija Harlow, NSF REU Visiting Fellow, Towson University Summer Project: *Dogs' multimodal representations of conspecifics*
2020 – 2021	Lisa Mulser, The University of Auckland [Secondary Supervisor] Summer Project: *Human performance in non-verbal intuitive statistics tasks*
2020	Kata Horváth, Campus Mundi Postgraduate Scholarship, Eötvös Loránd University Visiting Research Project: *Self-care tooling innovation in a disabled kea*
2020	Marieke van den Berg, HAS University of Applied Sciences Honours Thesis: *Do kea have aesthetic preferences?*
2020	Martin Dessart, La Faculté des Sciences de la Vie, Université de Strasbourg Master's Thesis: *Effects of the warble call on optimism in kea (Nestor notabilis)*
2019 – 2020	Gabriela Venable, Yale Robert C. Bates Fellowship, Yale University Visiting Postgraduate Scholar

Select Professional Service & Leadership

Grant Reviewer	Mind Science Foundation Tom Slick Research Awards in Consciousness, Johns Hopkins University Provost's Undergraduate Research Award
Journal Reviewer	Nature Communications [1], Proceedings B [1], Biology Letters [1], Animal Cognition [1], Behaviour [6], Current Zoology [2], Animal Behavior and Cognition [3], Topics in Cognitive Science [1], Notornis [1], PeerJ [1], Journal of Ornithology [2]
Other	Conference chair for Evolution & Department at 31st Comparative Cognition Conference 2024; co-founder and organiser of Evolution Research at Auckland (ERA) network 2018 – 2019 based at The University of Auckland, New Zealand.