

# CJ Logan

Senior Researcher ♦ Comparative Behavioral Ecology Group ♦ Email ♦ Website ♦ US Citizen  
Department of Human Behavior, Ecology and Culture ♦ Max Planck Institute for Evolutionary Anthropology

**RESEARCH SUMMARY:** I aim to resolve fundamental questions about behavioral flexibility in relation to rapid geographic range expansions using field and lab experiments, and to conduct verifiable research openly and ethically.

## **EXPERIENCE AND EDUCATION**

- 2018- Senior Researcher, Department of Human Behavior, Ecology and Culture, Max Planck Institute for Evolutionary Anthropology
- Investigating how behavioral flexibility works and whether it is a mechanism for surviving in new environments in species that are rapidly expanding their ranges: great-tailed grackles and humans.
- 2015-2018 Leverhulme Early Career Research Fellow, Department of Zoology, University of Cambridge and Bye Fellow, Murray Edwards College (2016-2018)
- Conducted the first study on the heritability of endocranial volume (a brain size proxy) in a wild mammal
  - Discovered that endocranial volume is heritable and associated with female lifetime reproductive success and longevity, but not fecundity, in 1314 red deer
  - Results confirm some long-standing, previously untested assumptions about brain size variation and show that some cross-species hypotheses hold within-species
- 2012-2015 Junior Research Fellow, SAGE Center for the Study of the Mind, University of California Santa Barbara
- Discovered that New Caledonian crows do not learn by imitating; therefore, I suggested a new pathway for the evolution of cumulative technological culture
  - Conducted the first cognitive tests on great-tailed grackles, finding that, contrary to predictions, their behavioral flexibility is similar to that of crows despite their smaller relative brain size and lack of anecdotal foraging innovations
  - Showed that behavioral flexibility is independent from problem solving, innovativeness, and other behaviors such as neophobia
- 2008-2012 **PhD** Experimental Psychology, University of Cambridge (with Prof Nicola Clayton) and Murray Edwards College
- Investigated the sociality, ontogeny, and function of corvid (birds in the crow family) postconflict affiliation, finding that even the least social species studied so far uses social support
  - Developed new methods to detect postconflict affiliation in strongly bonded individuals
- 2004-2008 Research Assistant at the University of Washington, Stanford University, University of Arizona, and Washington State Department of Natural Resources
- 2002-2004 **BS** Biology, The Evergreen State College, WA, USA (with Prof John Longino)
- Discovered that adult male coatis play with juveniles rather than predate them, which makes them an excellent model for studying the mechanisms of infanticide
- 1999-2002 **AA** Degree in Biology and Drama, Skagit Valley College, WA, USA

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## **PUBLICATIONS** (#=highlighted article, \* = undergraduate co-author, ^=top 5% of all articles at Altmetric)

32. \*Berens JM, **Logan CJ**, McCune K. 2019. [Validating morphological condition indices and their relationship with reproductive success in great-tailed grackles](#). In principle acceptance by *PCI Ecology* of the [version](#) on 8 Nov 2019.
31. McCune K, McElreath R, **Logan CJ**. 2019. [Investigating the use of learning mechanisms in a species that is rapidly expanding its geographic range](#). In principle acceptance by *PCI Ecology* of the [version](#) on 26 Mar 2019.
30. \*Sevchik A, **Logan CJ**, Folsom M, Bergeron L, Blackwell A, Rowney C, Lukas D. 2019. [Investigating sex differences in genetic diversity in great-tailed grackles in Tempe, Arizona to infer potential sex biases in dispersal](#). In principle acceptance by *PCI Ecology* of the [version](#) on 29 Nov 2019.
29. **Logan CJ**, Bergeron L, Rowney C, Folsom M, McCune K. 2019 submitted. [Does behavioral flexibility positively correlate with the number of food types eaten and foraging techniques used in a rapidly expanding species?](#) In principle acceptance by *PCI Ecology* of the [version](#) on 6 Aug 2019.
28. **Logan CJ**, Rowney C, Bergeron L, Seitz B, Blaisdell A, Johnson-Ulrich Z, Folsom M, McCune K. 2019. [Is behavioral flexibility manipulatable and, if so, does it improve flexibility and problem solving in a new context?](#) In principle acceptance by *PCI Ecology* of the [version](#) on 26 Mar 2019.
27. **Logan CJ**, Johnson-Ulrich Z, Bergeron L, Rowney C, Seitz B, Folsom M, Blaisdell A, McCune K, Wascher CAF. 2019. [Are the more flexible individuals also better at inhibition?](#) In principle acceptance by *PCI Ecology* of the [version](#) on 6 Mar 2019.
26. Blaisdell A, Johnson-Ulrich Z, Bergeron L, Rowney C, Seitz B, Folsom M, McCune K, **Logan CJ**. 2019. [Do the more flexible individuals rely more on causal cognition? Observation versus intervention in casual inference in great-tailed grackles](#). In principle acceptance by *PCI Ecology* of the [version](#) on 31 Jan 2019.
25. McCune K, Rowney C, Bergeron L, Folsom M, **Logan CJ**. 2019. [Is behavioral flexibility linked with exploration, but not boldness, persistence, or motor diversity?](#) In principle acceptance by *PCI Ecology* of the [version](#) on 27 Mar 2019.
- ^24. **Logan CJ**, Avin S, Boogert N, Buskell A, Cross F, Currie A, Jelbert S, Lukas D, Mares R, Navarrete Rodriguez A, Shigeno S, Montgomery S. 2018. [Beyond brain size: uncovering the neural correlates of behavioral and cognitive specialization](#). doi:10/c594
- ^23. **Logan CJ**. 2017. [We can shift academic culture through publishing choices](#) [version 2; referees: 3 approved]. doi:10/gbxt6f
22. Mikhalevich I, Powell R, **Logan CJ**. 2017. [Is behavioural flexibility evidence of cognitive complexity? How evolution can inform comparative cognition](#). doi:10/c595
- #^21. **Logan CJ**, Kruuk L, Stanley R, Thompson A, Clutton-Brock TH. 2016. [Endocranial volume is heritable and is associated with longevity and fitness in a wild mammal](#). doi:10/c596. *Highlights: extensive press coverage (Cambridge press release, New Scientist, Science, Gates Cambridge, Naked Scientists)*.
20. Miller R, **Logan CJ**, \*Lister K, Clayton NS. 2016. [Eurasian jays do not copy the choices of conspecifics, but they do show evidence of stimulus enhancement](#). doi:10/c597
19. **Logan CJ**. 2016. [Behavioral flexibility in an invasive bird is independent of other behaviors](#). doi:10/c598
- ^18. **Logan CJ**. 2016. [How far will a behaviourally flexible invasive bird go to innovate?](#) doi:10/c599

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- #^17. **Logan CJ**. 2016. [Behavioral flexibility and problem solving in an invasive bird](#). doi:10/c6bb  
*Highlights: extensive press coverage (UCSB press release, Audubon Society, NY Times ScienceTake, National Geographic, Gates Cambridge, Cambridge News), 3 radio interviews, and I blogged at She Talks Science.*
- ^16. **Logan CJ**, \*Harvey B, Schlinger BA, Rensel M. 2016. [Western scrub-jays do not appear to attend to functionality in Aesop's Fable experiments](#). doi:10/c6bc
- ^15. **Logan CJ**, \*Breen AJ, Taylor AH, Gray RD, Hoppitt WJE. 2016. [How New Caledonian crows solve novel foraging problems and what it means for cumulative culture](#). doi:10/f8dksw
- ^14. **Logan CJ**, \*Palmstrom CR. 2015. [Can endocranial volume be accurately estimated from external skull measurements in great-tailed grackles \(Quiscalus mexicanus\)?](#) doi:10/c6bd
- #^13. **Logan CJ**, Jelbert SA, \*Breen AJ, Gray RD, Taylor AH. 2014. [Modifications to the Aesop's Fable paradigm change performances in New Caledonian crows](#). doi:10/f6jkbw  
*Highlights: extensive press coverage (National Geographic, 3 radio interviews, and the UCSB press release was widely distributed) resulting in 17,000+ article views in the first 2 weeks, my hosting a PLoS Science Ask Me Anything, and I video blogged about life in the field for the National Geographic Explorers Journal*
12. **Logan CJ**. 2014. [Making progress in non-human mental time travel](#). doi:10/c6bf
11. O'Donnell S, Kumar A, **Logan C**. 2014. [Do Nearctic migrant birds compete with residents at army ant raids? A geographic and seasonal analysis](#). doi:10/f6kb25
- ^10. Carter AJ, Horrocks NPC, Huchard E, **Logan CJ**, Lukas D, MacLeod KJ, Marshall HH, Peck HL, Sanderson J, Sorensen M. 2014. [Junior scientists are skeptical of skeptics of open-access](#). doi:10/c6bg
9. **Logan CJ**, Longino JT. 2013. [Adult male coatis play with a band of juveniles](#). doi:10/f4k7q6
8. **Logan CJ**, Ostojic L, Clayton NS. 2013. [Rook, but not jackdaw, post-conflict third-party affiliation reduces aggression for aggressors](#). doi:10/f4t463
- #7. **Logan CJ**, Emery NJ, Clayton NS. 2013. [Alternative behavioral measures of post-conflict affiliation](#). doi:10/f4jctt  
*Highlights: I won the ASAB/New Scientist 2009 Science Writing Prize for a popular science article, which was published in New Scientist. Published a summary in Natural History Magazine (June 2011)*
6. **Logan CJ**, Clutton-Brock TH. 2013. [Validating methods for measuring endocranial volume in individual red deer \(Cervus elaphus\)](#). doi:10/f4k7q6
5. O'Donnell S, **Logan C**, Clayton NS. 2012. [Specializations of birds that attend army ant raids: an ecological approach to cognitive and behavioral studies](#). doi:10/f4f4gf
- #^4. **Logan CJ**, O'Donnell S, Clayton NS. 2011. [A case of mental time travel in ant-following birds?](#) doi:10/cpfdhk  
*Highlights: extensive press coverage (BBC Nature, AnimalWise blog, and the Cambridge press release was distributed widely), I blogged at Oxford University Press about life as an army ant bird researcher*
3. O'Donnell S, Kumar A, **Logan C**. 2010. [Army ant raid attendance and bivouac checking behavior by Neotropical montane forest birds](#). doi:10/fb5b38
2. **Logan CJ**, Montero C. 2009. [Bothrops asper \(Terciopelo\) scavenging behavior](#). *Herpetological Review* 40:352.
1. **Logan CJ**, Pepper JW. 2007. [Social learning is central to innovation, in primates and beyond](#). doi:10/ckrcc5

## PUBLICATIONS (NOT PEER REVIEWED)

4. Tennant J, Gatto L, **Logan C**. 2018. [Preprints help journalism, not hinder it](#). doi:10/gd3xpr

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3. Montgomery S, Currie A, Lukas D, Boogert N, Buskell A, Cross F, Jelbert S, Avin S, Mares R, Navarrete Rodriguez A, Shigeno S, **Logan CJ**. 2018. [Ingredients for understanding brain and behavioral evolution: ecology, phylogeny, and mechanism](#). doi:10/c6bh
2. Priego E, McKiernan E, Posada A, Hartley R, Rodriguez Ortega N, Fiormonte D, Gil A, **Logan C**, Pablo Alperin J, Mounce R, Eglen SJ, Miranda Trigueros E, Lawson S, Gatto L, Ramos A, Pérez N. 2017. [Scholarly Publishing, Freedom of Information and Academic Self-Determination: The UNAM-Elsevier Case](#). doi:10/c6bj
1. Powell R, Mikhalevich I, **Logan CJ**, Clayton NS. 2017. [Convergent minds: the evolution of cognitive complexity in nature](#). doi:10/c6bk

## **PREREGISTRATIONS (NOT PEER REVIEWED)**

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1. **Logan CJ**, Rowney C, Bergeron, McCune K, Bond A, Trumble B, Blackwell A, Escalante A, Pacheco M. 2018. [What are the costs and constraints of behavioral flexibility in great-tailed grackles?](#)
2. **Logan CJ**, Rowney C, McCune K, Bond A, Bergeron, Trumble B, Blackwell A, Escalante A, Pacheco M. 2018. [How and why does behavioral flexibility vary across the range of a rapidly expanding species?](#)
3. **Logan CJ**, Rowney C, Bergeron L, McCune K, Bond A, Blackwell A, Lukas D. 2018. [The genetics of behavioral flexibility across the range of a rapidly expanding species](#).
4. Folsom MA, MacPherson M, Lukas D, McCune KB, Bergeron L, Bond A, Blackwell A, Rowney C, **Logan CJ**. Submitted 2019. [Repeated parental care by adult male great-tailed grackles and its association with hormones, fitness, specific populations, and mating strategies](#).

## **SELECTED GRANTS** (see [www.CorinaLogan.com](http://www.CorinaLogan.com) for full list)

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2017	Shuttleworth Foundation Flash Grant <i>Funded the #BulliedIntoBadScience campaign</i>	\$5,000
2015	Cambridge Graduate School of Life Sciences Researcher Development Grants <i>Funded an 'Exercise your interview skills' workshop for PhD students and postdocs</i>	£718
2015-2018	Leverhulme Early Career Fellowship/Newton Trust salary + research funds	£123,000
2014	University of California Santa Barbara Open Access Pilot Fund Program <i>Covered publication fees for Logan et al. (2014) in PLoS ONE</i>	£857
2012-2014	National Geographic Society/Waitt Grants Program <i>Funded the field research on New Caledonian crows and great-tailed grackles</i>	£9,000
2012-2015	Junior Research Fellowship, SAGE Center salary + research funds	£91,115
2010-2011	Cambridge Philosophical Society Travel Grants (conferences)	£685
2009-2011	Gates Cambridge Trust Research Grants (conferences)	£2,111
2009-2011	Murray Edwards College Research and Travel Grants (conferences)	£895
2008-2011	Murray Edwards College International Bursary	£3,000
2008-2011	Gates Cambridge Scholarship (awarded to top 5% of 800 applicants) <i>Funded my PhD fees, living costs, and stipend at the University of Cambridge</i>	£75,000

## **SELECTED AWARDS** (see [www.CorinaLogan.com](http://www.CorinaLogan.com) for full list)

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2016-2018	Post-doctoral Bye Fellow, Murray Edwards College, University of Cambridge	
2016	<i>Learning &amp; Behavior</i> Best Article Award	£761
2011	Best Talk (out of 12), Murray Edwards College Graduate Symposium	£50
2009	Science Writing Prize, Assoc. for the Study of Anim Behav & <i>New Scientist</i>	£1,000

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- 2009 2<sup>nd</sup> prize Best Student Talk (out of 50), International Ethological Congress £40  
2002 Skagit Valley College: graduated with high honors and the President's Medal (top 1.8%), grades (GPA): 3.91/4.00

## **SELECTED INVITED TALKS** (see [www.CorinaLogan.com](http://www.CorinaLogan.com) for full list)

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- 2019 *Zoology*, Charles University, Prague; Workshop: Future of registered reports, Center for Open Science, London; Keynote: Open Science Day, Max Planck Institute for Human Cognition, Leipzig; *eScience Institute*, University of Washington; *Open Access Ambassadors*, Max Planck Society, Berlin
- 2018 *Biology*, New Mexico State University; *Biology*, University of New Mexico; Symposium speaker: *The State of Peer Review*, Joint Statistical Meetings, Vancouver, BC; Keynote: Munin Conference, Tromso, Norway; Todos seminar speaker, The Arctic University of Norway, Tromso, Norway
- 2017 *Evolution of Social Complexity*, Arizona State University; eLife; Archbold Research Station, FL; *Zoology*, Office of Scholarly Communication, Graduate Union, University of Cambridge; Max Planck Institute for Evolutionary Anthropology; OpenCon; *Biology*, University of York
- 2016 *Animal & Environmental Biology*, Anglia Ruskin University, UK; *Centre National de la Recherche Scientifique*, France; *Zoology*, Wolfson College, *Zoology Postdocs*, *Open Policy*, University of Cambridge; *Zoology*, Stockholm University; Leverhulme Trust Board meeting, London
- 2015 *Biology*, University of St Andrews; *Center for Behavior, Evolution, and Culture*, UCLA; *Zoology, History and Philosophy of Science*, University of Cambridge
- 2014 *Biology*, Washington University; *Psychology*, University of Washington; Santa Barbara City College; Hastings Natural History Reserve; *Psychology*, University of California Santa Barbara (UCSB; March and May); *Laboratory of Neuroendocrinology*, UCLA; *Ecology, Evolution and Marine Biology*, UCSB
- 2013 *Psychology*, University of Washington; *National Center for Ecological Analysis and Synthesis*, UCSB
- 2012 *Psychology*, UCSB; University of Edinburgh
- 2011 *Sub-dept of Animal Behaviour*, University of Cambridge; *Biology*, University of Washington; *Behavioural Ecology*, University of Neuchâtel, Switzerland

## **TEACHING AND SUPERVISION**

- Workshop: *How to implement an open and transparent workflow* for researchers at the Max Planck Institute for Evolutionary Anthropology (2019)
- How to improve the value of your research. Module 1: Open Principles, Open Science MOOC (2019)
- Designed and taught *Neuroethology: The neural basis of adaptive behaviour* for final year undergraduates in Zoology at Cambridge (3 lectures; 2016).
- Co-designed and taught graduate seminars in Psychological and Brain Sciences at UCSB: *Interdisciplinary Approaches to Brains and Behavior* (2013) and *Behavioral science: are you doing it wrong?* (2014). Course material was adapted to student interests throughout the term.
- Developed and delivered a writing workshop for final year students at Cambridge (2009, 2011, 2016).
- Guest lecturer since 2012: *Neuroethology* (3 lectures) at the University of Cambridge; *Behavioral Ecology* (1 lecture) at Anglia Ruskin University; *Ethology and Behavioral Ecology* (3 lectures), *Social Psychology of Close Relationships* (1 lecture) at UCSB; and *Methods in Field Biology* (1 lab) and *Seminars in Biology* (1 lecture) at Santa Barbara City College.
- Committee member for five PhD students at Cambridge, Univ. of Washington, and Max Planck.



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- Supervised 37 undergraduate and 4 high school research assistants in the US and UK (since 2009). Advised in how to give presentations, and apply for grants and PhD programs.
- Tutored small groups of undergraduates in *Behaviour* and *Neuroethology* at Cambridge (~60 students; 2009, 2011, 2016).
- Marked critical reviews, literature reviews, and research project reports for final year undergraduates at Cambridge (~25; since 2011).
- Assisted in conducting lab practicals for ~500 undergraduates in *Evolution and Behaviour* and marked ~15% of their exams at Cambridge (2009-2011).

## CONFERENCE PRESENTATIONS

- 2018 Is behavioural flexibility evidence of cognitive complexity? *LeadNet*, Berlin [poster]  
2017 Is behavioural flexibility evidence of cognitive complexity? *International Conference on Comparative Cognition*, Melbourne Beach, Florida  
2016 Endocranial volume is heritable and associated with fitness in deer. *International Society for Behavioral Ecology*, Exeter [poster]  
2016 Behavioral flexibility in an invasive bird is independent of other behaviors. *European Conference on Behavioural Biology*, Vienna, Austria  
Are invasive species behaviorally flexible? *Ethology*, Göttingen, Germany.  
2015 Does innovation frequency indicate complex cognition? *Behaviour*, Cairns, Australia.  
How New Caledonian crows solve novel foraging problems and what it means for cumulative culture. *ASAB Winter Meeting*, London, UK  
2013 Formalizing a broad post-conflict affiliation hypothesis. At a symposium I organized: *Post-conflict affiliation: applications for conflict management in humans*. *Behaviour*, Newcastle, UK  
2011 The sociality and ontogeny of corvid postconflict affiliation. *Behaviour*, Bloomington, US  
2010 Does social support reduce stress in corvids? *International Society for Behavioral Ecology*, Perth, Australia  
2009 The evolution and ontogeny of postconflict third-party affiliation in corvids. *International Ethological Congress*, Rennes, France

## LEADERSHIP (see [www.CorinaLogan.com](http://www.CorinaLogan.com) for full list)

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**Peer reviewer:** 30 reviews at 17 journals (details at my [website](http://www.CorinaLogan.com))

**Editor:** Associate Editor for *Royal Society Open Science* (2016-2019), Editorial Board member for *Animal Behavior and Cognition* (2017-), Managing Board member and Recommender at *Peer Community in Ecology* (2018-)

**Public talks:** Open Science MOOC: Open Principles Module, *eLife* early career researcher webinar, Aiming High Conference and mentor for Networking Events at Murray Edwards College, Big Game Night at the Cambridge Festival of Ideas, Ask Me Anything on PLoS Science, The Naked Scientists, Audubon Society, Santa Barbara Zoo

**Organizer:** *Peer Community In* talks at MPI EVA; Co-organized Max Planck Institute Innovators workshop at MPI EVA (2019); ran “Bursting the Academic Bubble” roundtable at MPI EVA; Conducted a Workplace Culture survey and workshops in the Department of Zoology at Cambridge to contribute to the Collaborating with Men research project at Murray Edwards College (2018); Early career researcher workshop on *Moving brain size forward*, Postdoc Research Convenor for Murray Edwards College, Journals Coordination Scheme Working Group and School of Biological Sciences Consultative Committee (2017); facilitating a shift to *ethical scientific publishing*; co-organizer, Zoology Tea Talk seminar; OpenConCam member (since

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2016); implemented Cambridge-wide *interview workshops*; co-organized two *Workshops* (2013 & 2014); organized *symposium* at Behaviour 2013