# **Emily Elizabeth Bray**

www.emilyebray.com ebray@arizona.edu ebray@canine.org

#### PROFESSIONAL EXPERIENCE

University of Arizona, School of Anthropology, Tucson, AZ and

May 2017 - Present

Canine Companions for Independence®, Santa Rosa, CA

Post-doctoral Research Associate

Focus: Longitudinal cognitive and behavioral studies in assistance dogs

Supervisors: Dr. Evan MacLean and Dr. Brenda Kennedy

#### **EDUCATION**

University of Pennsylvania, Philadelphia, PA

May 2017

PhD in Psychology (Concentration in Animal Learning and Behavior)

Center for Teaching & Learning Teaching Certificate in College and University Teaching

Dissertation: "A longitudinal study of maternal style, young adult temperament and cognition, and program outcome in a population of guide dogs"

Advisors: Dr. Robert Seyfarth, Dr. Dorothy Cheney, and Dr. James Serpell

University of Pennsylvania, Philadelphia, PA

May 2013

M.A. in Psychology

Thesis: "Dogs as a model system for understanding problem-solving: Exploring the affective and cognitive mechanisms that impact inhibitory control"

Advisors: Dr. Robert Seyfarth, Dr. Dorothy Cheney, and Dr. James Serpell

Duke University, Durham, NC

May 2012

B.A. in Cognitive Psychology and English (*summa cum laude*), Graduation with Distinction in Psychology Psychology GPA 4.0, Cumulative GPA 3.97

Graduation with Distinction Thesis: "Factors Affecting Inhibitory Control in Dogs"

Advisors: Dr. Brian Hare and Dr. Stephen Mitroff

University College London, London, UK

August 2010 - December 2010

Semester Abroad through Butler University's Institute for Study Abroad

### PEER-REVIEWED PUBLICATIONS

- 14. Hall, N.J., Johnston, A.M., **Bray**, E.E., Otto, C.M., MacLean, E.L, & Udell, M.A.R. (2021). Working dog training for the twenty-first century. *Frontiers in Veterinary Science*, 8:646022. doi: 10.3389/fvets.2021.646022.
- 13. Salomons, H., Smith, K., Callahan-Beckel, M., Callahan, M., Levy, K., Kennedy, B., **Bray, E.E.**, Gnanadesikan, G., Horschler, D., Gruen, M., Tan, J., White, P., MacLean, E., & Hare, B. (2021). Cooperative communication with humans evolved to emerge early in domestic dogs. *Current Biology*, *31(14)*, 3137-3144. doi: 10.1016/j.cub.2021.06.051.
- 12. **Bray, E.E.,** Gnanadesikan, G.E., Horschler, D.J., Levy, K. M., Kennedy, B.S., Famula, T.R., & MacLean, E.L. (2021). Early-emerging and highly heritable sensitivity to human communication in dogs. *Current Biology*, 31(14), 3132-3136. doi: 10.1016/j.cub.2021.04.055.
- 11. **Bray, E.E.,** Otto, C.M., Udell, M.A.R., Hall, N.J., Johnston, A.M., & MacLean, E.L. (2021). Enhancing the selection and performance of working dogs. *Frontiers in Veterinary Science*. 8:644431. doi: 10.3389/fvets.2021.644431.

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- 10. **Bray, E.E.,** Gruen, M.E., Gnanadesikan, G.E., Horschler, D.J., Levy, K. M., Kennedy, B.S., Hare, B.A., & MacLean, E.L. (2021). Dog cognitive development: a longitudinal study across the first 2 years of life. *Animal Cognition*, 24, 311-328. doi: 10.1007/s10071-020-01443-7.
- 9. **Bray, E.E.,** Gruen, M.E., Gnanadesikan, G.E., Horschler, D.J., Levy, K.M., Kennedy, B.S., Hare, B.A., & MacLean, E.L. (2020). Cognitive characteristics of 8- to 10-week-old assistance dog puppies. *Animal Behaviour*, *166*, 193-206. doi:10.1016/j.anbehav.2020.05.019.
- 8. Byrne, M., **Bray**, **E.E.**, MacLean, E.L, & Johnston, A.M. (2020). Evidence for win-stay-lose-shift in puppies and adult dogs. *Proceedings of the Cognitive Science Society*.
- 7. **Bray, E.E.,** Levy, K.M., Kennedy, B.S., Duffy, D.L, Serpell, J.A., & MacLean, E.L. (2019). Predictive models of assistance dog training outcomes using the Canine Behavioral Assessment and Research Questionnaire and a standardized temperament evaluation. *Frontiers in Veterinary Science*. 6:49. doi: 10.3389/fvets.2019.00049.
- 6. **Bray, E.E.,** Sammel, M.D., Cheney, D.L, Serpell, J.A., and Seyfarth, R.M. (2017). Effects of maternal investment, temperament, and cognition on guide dog success. *Proceedings of the National Academy of Sciences of the United States of America*, 114(34), 9128-9133. doi:10.1073/pnas.1704303114.
- 5. **Bray, E.E.,** Sammel, M.D., Seyfarth, R.M., Serpell, J.A., and Cheney, D.L. (2017). Temperament and problem solving in a population of adolescent guide dogs. *Animal Cognition*, 20(5), 923-939. doi: 10.1007/s10071-017-1112-8.
- 4. **Bray, E. E.,** Sammel, M.D., Cheney, D.L, Serpell, J.A., and Seyfarth, R.M. (2017). Characterizing early maternal style in a population of guide dogs. *Frontiers in Psychology*, *8*, 175. doi: 10.3389/fpsyg.2017.00175.
- 3. **Bray**, **E.E.**, MacLean, E.L., & Hare, B.A. (2015). Increasing arousal enhances inhibitory control in calm but not excitable dogs. *Animal Cognition*, *18*(6), 1317-1329. doi: 10.1007/s10071-015-0901-1.
- MacLean, E.L., Hare, B., Nunn, C. L., Addessi, E., Amici, F., Anderson, R. C., Aureli, F., Baker, J. M., Bania, A. E., Barnard, A. M., Boogert, N. J., Brannon, E. M., Bray, E. E., Bray J., Brent, L. J. N., Burkart, J. M., Call J., Cantlon, J.F., Cheke, L. G., Clayton, N. S., Delgado, M. M., DiVincenti, L. J., Fujita, K., Herrmann, E., Hiramatsu, C., Jacobs, L. F., Jordan, K. E., Laude, J. R., Leimgruber, K. L., Messer, E. J. E., Moura, A. C.de A., Ostojić, L., Picard, A., Platt, M. L., Plotnik, J. M., Range, F., Reader, S. M., Reddy, R. B., Sandel, A. A., Santos, L. R., Schumann, K., Seed, A. M., Sewall, K. B., Shaw, R. C., Slocombe, K. E., Su, Y., Takimoto, A., Tan, J., Tao, R., van Schaik, C. P., Virányi, Z., Visalberghi, E., Wade, J. C., Watanabe, A., Widness, J., Young, J. K., Zentall, T. R., & Zhao, Y. (2014). The Evolution of Self-Control. Proceedings of the National Academy of Sciences of the United States of America, 111(20), E2140-E2148. doi: 10.1073/pnas.1323533111.
- 1. **Bray, E.E.,** MacLean, E.L., & Hare, B.A. (2014). Context specificity of inhibitory control in dogs. *Animal Cognition*, *17*(1), 15-31. doi: 10.1007/s10071-013-0633-z.

# MANUSCRIPTS - SUBMITTED

- Horschler, D.J., **Bray, E.E.,** Gnanadesikan, G.E., Byrne, M., Levy, K.M., Kennedy, B.S., & MacLean, E.L. (under review). Dogs re-engage human partners when joint social play is interrupted: A behavioral signature of shared intentionality?
- ManyDogs Project, Espinosa, J., **Bray, E.E.**, Buchsbaum, D., Byosiere, S.E., Byrne, M., Freeman, M.S., Gnanadesikan, G.E., Guran, A., Horschler, D.J., Huber, L., Johnston, A.M., MacLean, E.L., Pelgrim, M.H., Santos, L., Silver, Z.A., Stevens, J.R., Völter, C.J., & Zipperling, L. (preprint; under review). ManyDogs 1: A multi-lab replication study of dogs' pointing comprehension. *PsyArXiv*. https://doi.org/10.31234/osf.io/f86jq

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## RESEARCH GRANTS: CURRENT SUPPORT

Office of Naval Research—Postdoctoral Scholar/Key Personnel: Bray	2020-2023
Developmental and Genetic Influences on Working Dog Cognition (\$303,293)	
National Institute on Aging—Postdoctoral Scholar/Key Personnel: Bray	2020-2021
Development of Cognitive and Physical Activity Biomarkers for a Companion Dog Model of	
Alzheimer's Disease (\$300,577)	
AKC Canine Health Foundation–PIs: Bray & MacLean (\$105,949)	2018-2021
The Effects of Early Life Experience on Working Dog Temperament and Cognition	

### RESEARCH GRANTS: PREVIOUS SUPPORT

Office of Naval Research-Postdoctoral Scholar/Key Personnel: Bray (\$451,920)	2017-2019	
Ontogeny and Heritability of Cognitive and Behavioral Traits Linked to Military Working Dog Success		
National Science Foundation Graduate Research Fellowship (\$32,000 per year)	2013 - 2016	
Benjamin Franklin Fellowship, University of Pennsylvania	2012 - 2013, 2016 - 2017	

### HONORS AND AWARDS

HOTORS IN D IT WINEDS	
Wallis Annenberg PetSpace Leadership Institute Fellow, Class of 2020	2020
McDonogh School Young Alumni Award Recipient	2019
University of Arizona Sursum Fellow: Postdoctoral Research Develop	ment Grant (\$1,083) <b>2018-2019</b>
School of Arts & Sciences Dean's Travel Subvention (\$500)	Spring 2017
Norman Anderson Graduate Student Fund, Dept. of Psychology (\$2,49)	90) Winter 2017
School of Arts & Sciences Dean's Travel Subvention (\$500)	Summer 2016
Norman Anderson Graduate Student Fund, Dept. of Psychology (\$3,00	O(0) Summer 2015
School of Arts & Sciences Dean's Travel Subvention (\$300)	Summer 2014
Norman Anderson Graduate Student Fund, Dept. of Psychology (\$2,73	50) Summer 2014
Teece Fellowship, University of Pennsylvania (\$2,000)	Summer 2013
Phi Beta Kappa, Duke University	Spring 2013
Karl E. Zener Award for Outstanding Performance in Psychology, Dul	ke University Spring 2012
Faculty Scholar Award Nominee, Duke University	Fall 2011
Undergraduate Research Support Office Independent Study Grant (\$40	00) Fall 2011
Vertical Integration Program in Psychology Stipend (\$3,000)	Summer 2011
Student Marshal	Spring 2011
Winfred Quinton Holton Prize for Innovative Work in the Field of Edu	scation Spring 2011
Duke Dean's List with Distinction Fall 2008, Fall 2009, Spring 2011, Fall 2011	
Duke Dean's List Spring 2009, Spring 2010	
Psi Chi Honor Society Inductee	Spring 2010

### INVITED TALKS

Petminded, 2021

Breeder Caretaker Seminar, Canine Companions for Independence, 2021

Penn Vet Working Dog Center, Lunch & Learn, 2021

Sonoma State University, Biology Department Colloquium speaker series, 2020

Virtual Heritage Society stakeholder events, Canine Companions for Independence, 2020

Northwest, Southwest, Northeast, Southeast, and South Central Regions

Wallis Annenberg PetSpace Leadership Institute Retreat, Wallis Annenberg PetSpace, 2020

Duke University, Duke Canine Cognition Center, 1st Annual Darwin Dogs Day, 2019

Evolutionary Anthropology Talk Series, Duke University, 2019

Breeder Caretaker Seminar, Canine Companions for Independence, 2018

TEAM Volunteer Leadership Conference, Canine Companions for Independence, 2018

Canine Companions for Independence, 2018

Canine Science Symposium, San Francisco SPCA, 2018

National Board meeting reception, Canine Companions for Independence, 2017

The Seeing Eye, 2017

University of Exeter, Centre for Research in Animal Behaviour, 2016

The Seeing Eye, 2015

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University of Veterinary Medicine Vienna, Messerli Research Institute, Clever Dog Lab, 2013 Eötövos University Department of Ethology, Family Dog Project, 2013

#### **PRESENTATIONS**

- **Bray**, E.E. (2021 July). RStudio Projects and RMarkdown. Dog Aging Project, Trainees Research in Project (TRIP) meeting (Virtual).
- **Bray**, **E.E.** (2021 April). Continuing to explore the effects of mothering style in future assistance dogs. East Coast Canine Cognition Workshop, Yale University (Virtual meeting).
- Gnanadesikan, G.E., **Bray**, **E.E.**, MacLean, E.L., & vonHoldt, B.M (2021 April). Williams- Beuren Syndrome in Dogs? GeneticVariation, Social Behavior, and Assistance Dog Success. East Coast Canine Cognition Workshop, Yale University (Virtual meeting).
- Horschler, D.J., **Bray**, E.E., & MacLean, E.L. (2021 April). Interpreting dogs' re-engagement behaviors after disrupted joint activities. East Coast Canine Cognition Workshop, Yale University (Virtual meeting).
- Horschler, D.J., **Bray, E.E.,** & MacLean, E.L. (2021 Feb). Do dogs form joint intentions with humans in social play? The Society for Personality and Social Psychology's Origins of the Social Mind Preconference (Virtual meeting).
- **Bray, E.E.,** Gnandesikan, G.E., Horschler, D.J., & MacLean, E.L. (2021 Jan). Heritable variation in dog social cognition. #AnimBehav2021 Animal Behaviour Twitter Conference (Virtual). https://twitter.com/DrEmilyBray/status/1354554832749645826
- Gnanadesikan, G.E., Espinsoa, J.H., & ManyDogs (2021 Jan). ManyDogs 1: An International Collaborative Approach to Pointing Comprehension in Domestic Dogs. #AnimBehav2021 Animal Behaviour Twitter Conference (Virtual). https://twitter.com/ManyDogsProject/status/1354550089918767105
- **Bray**, **E.E.** & MacLean, E.L. (2020 July). Early ontogeny of social cognition in domestic dogs. Animal Behavior Society 2020 Virtual Conference.
- **Bray, E.E.,** Gnandesikan, G.E., Horschler, D.J., & MacLean, E.L. (2020 Feb). Early development and longitudinal stability of cognitive traits in working dogs. East Coast Canine Cognition Workshop, Yale University, New Haven, Connecticut.
- Byrne, M., **Bray**, **E.E.**, MacLean, E.L., & Johnston, A.M. (2020 Feb). Evidence for win-stay-lose-shift in puppies and adult dogs. East Coast Canine Cognition Workshop, Yale University, New Haven, Connecticut.
- Horschler, D.J., **Bray**, E.E., & MacLean, E.L. (2020 Feb). Do dogs re-engage humans when joint experiences end? East Coast Canine Cognition Workshop, Yale University, New Haven, Connecticut.
- MacLean, E.L., Gnanadesikan, G., **Bray**, **E.E.**, & Snyder-Mackler, N. (2020 Jan). Dog diversity as a natural experiment in cognitive evolution. The Society for Integrative & Comparative Biology Annual Meeting, Austin, Texas.
- MacLean, E.L., **Bray**, E.E., Gnanadesikan, G.E., & Horschler, D.J. (2019 Oct). Ontogeny and hertitability of cognitive and temperamental traits in an assistance dog population. International Canine Science Conference, Tempe, Arizona.
- **Bray**, E.E., Gnanadesikan, G., Horschler, D., & MacLean, E. (2019 April). Early emerging cognition in 9-week-old puppies. The 26<sup>th</sup> International Conference On Comparative Cognition, Melbourne Beach, Florida.
- MacLean, E., **Bray**, **E.E.**, Gnanadesikan, G., & Horschler, D. (2019 April). Heritability of Cognitive Traits in a Pedigreed Dog Population. The 26<sup>th</sup> International Conference On Comparative Cognition, Melbourne Beach, Florida.

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- **Bray**, E.E. (2018 Nov). How mothers matter: The impact of maternal style on later behavior and outcome in assistance dogs. East Coast Canine Cognition Workshop, Yale University, New Haven, Connecticut.
- **Bray**, E.E., Sammel, M., Cheney, D., Serpell, J., & Seyfarth, R. (2017 Oct). The effects of maternal investment, temperament, & cognition on guide dog success. Canine Science Conference, Tempe, Arizona.
- **Bray**, E.E., Sammel, M., Cheney, D., Serpell, J., & Seyfarth, R (2017 June). Puppies that succeed as guide dogs get tough love. 54<sup>th</sup> Annual Conference of the Animal Behavior Society, Toronto, Ontario.
- **Bray**, E.E., Sammel, M., Cheney, D., Serpell, J., & Seyfarth, R (2016 Aug). Cognitive and temperament predictors of guide dog success. 53<sup>rd</sup> Annual Conference of the Animal Behavior Society, Columbia, Missouri.
- **Bray, E.E.** (2014 Aug). The effect of arousal on inhibitory control in dogs. 51<sup>st</sup> Annual Conference of the Animal Behavior Society, Princeton, New Jersey.
- **Bray, E.E.** (2013 Aug). Dogs as a model system for understanding the effect of arousal on inhibitory control. University of Pennsylvania, 699 presentations to the Department of Psychology. Philadelphia, Pennsylvania.
- **Bray**, **E.E.** (2012 Sept). What are the factors affecting inhibitory control in dogs? IGERT Common Ground Seminar. Philadelphia, Pennsylvania.
- **Bray**, E.E., MacLean, E.L, & Hare, B.A. (2012 April). Factors Affecting Inhibitory Control in Dogs. 7<sup>th</sup> Annual ACC Meeting of the Minds Conference, Blacksburg, Virginia.

#### **POSTERS**

- \*Denotes undergraduate mentee
- Byrne, M., **Bray**, E.E., MacLean, E.L., & Johnston, A.M. (2020). Evidence for win-stay-lose-shift in puppies and adult dogs. Poster presented at the 42<sup>nd</sup> Annual Meeting of the Cognitive Science Society, Virtual.
- Kennedy, B.S., Levy, K.M., **Bray, E.E.,** & MacLean, E.L. (2019 September). Maternal style: How early experiences are associated with future outcomes of assistance dogs. Poster presented at 11<sup>th</sup> International Working Dog Conference, Stockholm, Sweden.
- \*Humphrey, E., **Bray, E.,** & Crocker, D. (2019 April). Cortisol and its tie to behavior in service dogs. Poster presented at Sonoma State University Science Symposium: Science, Technology, and Environmental Inquiry, Rohnert Park, California.
- \*Seely, A., **Bray**, **E.**, & Seyfarth, R. (2014 September). Flexible Attention in Seeing Eye® Puppies. Poster Presented at Center for Undergraduate Research & Fellowships Open House and Research Expo, Philadelphia, Pennsylvania.
- MacLean, E.L., Rainey, C., **Bray, E.,** Duffy, K., & Hare, B. (2012 July). Cognitive & Temperamental Traits of Successful Assistance Dogs. Poster presented at 21<sup>st</sup> Annual Conference of the International Society of Anthrozoology, Cambridge, United Kingdom.
- **Bray**, E.E., MacLean, E.L, & Hare, B.A. (2012 June). Factors Affecting Inhibitory Control in Dogs. Poster presented at 49<sup>th</sup> Annual Conference of the Animal Behavior Society, Albuquerque, New Mexico.
- **Bray**, E.E., MacLean, E.L, & Hare, B.A. (2012 April). Factors Affecting Inhibitory Control in Dogs. Poster presented at Duke's Visible Thinking Day, Durham, North Carolina.
- **Bray, E.E.** (2011 April). Recommendations for an English Language Learner Literacy Intervention in Durham Public Schools for Communities in Schools of Durham. Poster presented at Duke School Research Partnership End-of-Semester gathering poster presentation. Durham, North Carolina.

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# RESEARCH EXPERIENCE

RESEARCH EXPERIENCE		
Canine Companions for Independence, Santa Ros		_
Project coordinator, researcher, on-site	supervisor	2017 - present
The Seeing Eye, Inc., Morristown, NJ		
Project coordinator and researcher		2014 - 2016
Michigan State University Masai Mara Spotted H	Iyena Project, Kenya	C
Researcher	50 CA	Summer 2013
Canine Companions for Independence, Santa Ros Project Co-Manager, Associate in Resea		<b>July 2012</b>
K2 Solutions, Pinehurst, NC	iren in Evolutionary Anim opology	July 2012
Associate in Research in Evolutionary A	nthropology	<b>June 2012</b>
Canine Companions for Independence, Santa Ros		
Undergraduate researcher		August 2011
Duke University, School Research Partnership On	ffice, Durham, NC	
Independent study student		Spring 2011
Duke University, Duke Canine Cognition Center,		2010 2012
Undergraduate researcher and thesis st	udent	2010 - 2012
TEACHING AND MENTORING EXPERIEN	ICF	
Undergraduate Honors Theses Supervised	ICE	
Chandler From University of Arizona	The effect of vertical nursing on cognitive t	est scores 2020
,,	in 8-week-old puppies	
	1 11	
Camden Olson Princeton University	Service Dog Tales: A Tri-fold Study Investi	
	Diabetic Alert Dog Accuracy, the Use of Ai	nimal-
	Assisted Therapy to Address Executive	luniu a
	Functioning Skills, and the Function of Cal Signals in Service Dog Puppies	ming
	signuis in service Dog 1 uppies	
Sarah Frommer University of Pennsylvania	Does Kennel Acclimation Reliably Indicate	Stable 2016
, , ,	Traits Related to Stress Reactivity In Young	
	Eye® Dogs?	_
Molly Ream University of Pennsylvania	Stability of Behavioral Traits in Canines	2016
Sonoma State University Biology Research Int	counchin at Canina Companions, Montay and	on sito sunovvisov
Theresa Hatcher	ernship at Canine Companions: Mentor and	Spring 2020
Kyla Guinon, Erin Hardin, and Emily Humphrey		Spring 2019
Alexzia Clark, Emily Humphrey, Facundo Ortega		Fall 2018
Alexzia Clark, Emily Humphrey, and Amber Rob		Spring 2018
		•
<b>Undergraduate Research Assistants: Mentor a</b>	and on-site supervisor	
Rachel Shaberman (UC Davis)		2021
Camden Olson (Princeton)		2018
Mary Chiang (Franklin & Marshall)		2017
Lindsey Lang (University of Arizona) Sarah Frommer (University of Pennsylvania)		2017 2015-2016
Molly Ream (University of Pennsylvania)		2015-2016
Rebecca Schwartz (University of Pennsylvania)		2015-2016
Leonie Cohen (Swarthmore College)		2015
Marie Torres (University of Pennsylvania)		2014
Stephanie Bartner (Franklin & Marshall)		2014
Ashleigh Seely (University of Pennsylvania)		2014

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**University of Pennsylvania Mentoring** The Graduate School Mentoring Initiative 2014 - 2015 The Penn Mentoring Program 2013 - 2014 Teaching assistant Animal Behavior, Dr. Seyfarth and Cheney, University of Pennsylvania Fall 2013, Fall 2014 **Guest Lectures:** Human-Animal Bond Class 2021 University of Pennsylvania, School of Veterinary Medicine "Ontogeny and heritability of behavioral and cognitive traits in dogs" Field Studies in Animal Behavior: Dog Cognition and Behavior 2020 Hunter College, Psychology Department. "Research methods to study canine behavior and cognition" Animal Cognition Seminar 2014 University of Pennsylvania, Psychology Department. "How can dog research help us to understand inhibitory control?" Animal Behavior 2013, 2014 University of Pennsylvania, Psychology Department. "How can dog research help us to understand inhibitory control?" Alumni community reader for the Duke Reader Project Psy 202: Research Methods **Fall 2020** Bio 329L: Principles of Animal Physiology **Spring 2020** Psy 301: Research Methods Spring 2017 **Tutoring experience** Thompson Writing Program: The Writing Studio, Durham, NC 2010 - 2012 Undergraduate Writing Tutor following completion of a semester-long course Partners for Success, Durham, NC (4<sup>th</sup> grade) **Fall 2011** Tutored as part of my service-learning course Psy 108A: Educational Psychology The Duke School, Durham, NC (pre-school) Spring 2011 Student Observer for Psy 183B: Child Observation Partners for Youth, Durham, NC (high school) 2008 - 2009 PROFESSIONAL SERVICE, DEVELOPMENT, AND AFFILIATIONS Grant reviewer The Leakey Foundation 2021 University of Arizona Postdoctoral Research Development grants 2020 Animal Behavior Society student research grants 2019 Ad Hoc reviewer (see Publons for verified peer reviews) **2014 - Present** Animal Behaviour, Animal Cognition, Applied Animal Behaviour Science, Behaviour, Behavioural Processes, Hormones and Behavior, Journal of Applied Animal Welfare Science, Journal of Comparative Psychology, Journal of Ethology, Journal of Veterinary Behavior: Clinical Applications and Research, Learning & Behavior, PLOS One, Royal Society Open Science, Scientific Reports, Veterinary Record ManyDogs consortium (founding member, methods development committee, team captain) **2019 - Present** Dog Aging Project (Research Team) 2020 - Present

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2021

Weaving the Future of Animal Behavior, Animal Behavior Society

Professional Development workshop for early career animal behavior scientists

Organized "Topics in Animal Behavior" graduate seminar, University of Pennsylvania Sprin	ng 2014, 2015, 2016
Member Animal Behaviour Society The International Society of Anthrozoology Comparative Cognition Society	2012 - Present 2017 - Present 2020 - Present
PUBLIC SCIENTIFIC ENGAGEMENT (SELECTED EXAMPLES)	
"New study shows puppies are born able to understand and communicate with humans." Quirks and Quarks, CBC Radio. <a href="https://bit.ly/3zkTfyH">https://bit.ly/3zkTfyH</a>	June 2021
"Puppies Understand You Even at a Young Age, Most Adorable Study of the Year Confirms." Scientific American 60-Second Science Podcast. <a href="https://bit.ly/3g6QNmB">https://bit.ly/3g6QNmB</a>	June 2021
"The mind of a puppy with Dr. Emily Bray." K9s Talking Scents Podcast. <a href="http://bit.ly/2PetnlC">http://bit.ly/2PetnlC</a>	<b>March 2021</b>
"Maternal Care in Dogs." The Functional Breeding Podcast. <a href="http://bit.ly/36jTjlh">http://bit.ly/36jTjlh</a>	Jan 2021
"Join Canine Companions postdoctoral research associate Dr. Emily Bray."	
Canine Companions for Independence, Facebook Live event. <a href="https://bit.ly/2yIlyMV">https://bit.ly/2yIlyMV</a>	May 2020
"How Mothers Matter: The Influence of Early Maternal Interaction on Offspring Behavior and I Continuing Education event presented as part of the 2019 VetVine Webinar Series,	Development."
sponsored by AKC Canine Health Foundation. <a href="http://bit.ly/2QscPDb">http://bit.ly/2QscPDb</a>	May 2019
"What dogs teach us about parenting." Top of Mind with Julie Rose, BYU Radio. <a href="https://bit.ly/2eMvETc">https://bit.ly/2eMvETc</a>	Sept 2017
"Guide Dog Success." AAAS Science Update. <a href="http://bit.ly/2uQpa8n">http://bit.ly/2uQpa8n</a>	Aug 2017
"Coddled puppies make poor guide dogs, study suggests." All Things Considered, National Public Radio. <a href="http://n.pr/2uA1vrS">http://n.pr/2uA1vrS</a>	Aug 2017
"Puppies that get tough love succeed as guide dogs."	
Quirks and Quarks, CBC Radio. <a href="http://bit.ly/2i7oTMC">http://bit.ly/2i7oTMC</a>	Aug 2017
COMMUNITY SCIENCE OUTREACH	
Students as Peers participant with Animal Cognition and Behaviour course (University of Rijeka - Corresponded with students and answered questions about one of my first-author papers	
Canine Companions for Independence (CCI), National Puppy Program Workshop	Oct 2020
- Presented research involving assistance dogs and participated in a Q + A with puppy rain American Association of University Women (AAUW) Girls in Engineering, Math, and Science (	isers for CCI
- Presented my research to and participated in a panel discussion for the local AAUW GE	
Penn Alexander School	March 2017
- Presented my research to the 3 <sup>rd</sup> grade as part of their "Women in Science" unit. Ashley Park Pre K-8 School	Jan 2014
- Presented my work on impulse control in service dogs to a 2 <sup>nd</sup> grade class.	
Central Park School for Children, Durham, NC  - Presented my service dog research to a 1 <sup>st</sup> grade class in an interactive setting.	Aug 2012
North Carolina Museum of Natural Sciences, Raleigh, NC	August 2012
- Played interactive cognition games with attendees of a bonobo conservation talk.  Duke Canine Cognition Center, Durham, NC	March 2012
- Presented our dog research as part of the Pathways Health Careers Enrichment Program	

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