Daniel J. Horschler

Curriculum Vitae

Contact Information

The University of Arizona
School of Anthropology
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Areas of Interest

Cognitive Evolution | Cognitive Development | Social Cognition | Theory of Mind | Joint Experience | Shared Intentionality | Executive Function | Domestication | Brain Evolution | Neuroanatomy

Education

The University of Arizona
Ph.D., Anthropology (2021 expected)
Major field: Biological Anthropology
Minor field: Cognitive Science
Affiliation: Cognitive Science Program
GPA: 4.0
M.A., Anthropology (2018)
Major field: Biological Anthropology
GPA: 4.0

The University of North Carolina at Chapel Hill
B.S., Psychology (2016)
Major field: Cognitive Psychology
Minor field: Anthropology
GPA: 3.95, Highest Distinction & Highest Honors

Research Experience

Wildlife Science Center, Stacy, MN (2018 – Present)
Humane Society of Southern Arizona, Tucson, AZ (2018 – Present)
Arizona Canine Cognition Center, Tucson, AZ (2016 – Present)
Canine Companions for Independence, Santa Rosa, CA & Oceanside, CA (2016 – Present)
Cayo Santiago Biological Field Station, Punta Santiago, Puerto Rico (2016 – Present)
Canine Cognition Center at Yale, New Haven, CT (2015)
Human Memory Lab, Chapel Hill, NC (2015 – 2016)
Lenovo User Experience Research Team, Morrisville, NC (2014 – 2016)
Somatosensory Research Lab, Chapel Hill, NC (2013 – 2014)

Peer-Reviewed Publications

Horschler, D.J., MacLean, E.L., & Santos, L.R. (2020). Do non-human primates really represent others' beliefs? *Trends in Cognitive Sciences, 24*(8), 594-605.
https://doi.org/10.1016/j.tics.2020.05.009

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, 66*, 193-206.
https://doi.org/10.1016/j.anbehav.2020.05.019

Horschler, D.J. & MacLean, E.L. (2019). Leveraging brain-body scaling relationships for comparative studies. *Animal Cognition, 22*(6), 1197-1202.
https://doi.org/10.1007/s10071-019-01316-8

Horschler, D.J., Santos, L.R., & MacLean, E.L. (2019). Do non-human primates really represent others' ignorance? A test of the awareness relations hypothesis. *Cognition, 190*, 72-80.
https://doi.org/10.1016/j.cognition.2019.04.012

Horschler, D.J., Hare, B., Call, J., Kaminski, J., Miklósi, Á., & MacLean, E.L. (2019). Absolute brain size predicts dog breed differences in executive function. *Animal Cognition*, *22*(2), 187-198.
https://doi.org/10.1007/s10071-018-01234-1

† *Selected as the issue's highlight article*

Submitted Manuscripts

Bray, E.E., Gruen, M.E., Gnanadesikan, G.E., **Horschler, D.J.**, Levy, K.M., Kennedy, B.S., Hare, B.A., & MacLean, E.L. (Under review). Dog cognitive development: A longitudinal study across the first two years of life. *Animal Cognition.*

Horschler, D.J., MacLean, E.L., & Santos, L.R. (Submitted). Advancing gaze-based research on primate theory of mind. *Trends in Cognitive Sciences.*

Manuscripts in Preparation

Horschler, D.J., Santos, L.R., & MacLean, E.L. (In prep). How do non-human primates represent others' awareness of hidden objects?

Horschler, D.J.* & Arre, A.M.* (In prep). Swimming and diving as social play in juvenile rhesus macaques (*Macaca mulatta*). [*Denotes equal contribution]

Horschler, D.J., Bray, E.E., Gnanadesikan, G.E., Byrne, M., & MacLean, E.L. (In prep). Dogs re-engage human partners when joint activities are interrupted.

Salomons, H., MacLean, E.L., Callahan, M., Smith, K., Gnanadesikan, G.E., **Horschler, D.J.**, Rodriguez, K., Tan, J., Callahan, M., & Hare, B. (In prep). Comparative development of wolf and working dog cognition.

Conference Presentations

Horschler, D.J., Bray, E.E., & MacLean, E.L. (2020). Do dogs re-engage humans when joint experiences end? Talk presented at the Yale University East Coast Canine Cognition Workshop, New Haven, CT.

Bray, E.E., Gnandesikan, G.E., **Horschler, D.J.**, & MacLean, E.L. (2020). Early development and longitudinal stability of cognitive traits in working dogs. Talk presented at the Yale University East Coast Canine Cognition Workshop, New Haven, CT.

MacLean, E.L., Bray, E.E., Gnanadesikan, G.E., & **Horschler, D.J.** (2020). Associations between individual differences in cognition and training outcomes in assistance dogs. Talk presented at the Yale University East Coast Canine Cognition Workshop, New Haven, CT.

Horschler, D.J., Santos, L.R., & MacLean, E.L. (2019). Awareness relations underpin knowledge representation in rhesus monkeys. Talk presented at the UA-ASU Cognitive Science Conclave, Tucson, AZ.

Horschler, D.J., Santos, L.R., & MacLean, E.L. (2019). How do non-human primates represent what others know? Talk presented at the 7th Annual Conference of the Southwestern Association of Biological Anthropologists, Tempe, AZ.

† *Awarded prize for best student podium presentation*

MacLean, E.L., Bray, E.E., Gnanadesikan, G.E., & **Horschler, D.J.** (2019). Ontogeny and heritability of cognitive and temperamental traits in an assistance dog population. Talk presented at the International Canine Science Conference, Tempe, AZ.

Horschler, D.J., Santos, L.R., & MacLean, E.L. (2019). Do non-human primates really represent others' ignorance? Talk presented at the 26th International Conference on Comparative Cognition, Melbourne Beach, FL.

† *Selected as a finalist for the Ron Weisman Outstanding Student Presentation Award*

Bray, E.E., Gnanadesikan, G.E., **Horschler, D.J.**, & MacLean, E.L. (2019). Early emerging cognition in 9-week-old puppies. Talk presented at the 26th International Conference on Comparative Cognition, Melbourne Beach, FL.

MacLean, E.L., Bray, E.E., Gnanadesikan, G.E., & **Horschler, D.J.** (2019). Heritability of cognitive traits in a pedigreed dog population. Talk presented at the 26th International Conference on Comparative Cognition, Melbourne Beach, FL.

Horschler, D.J. & MacLean, E.L. (2018). Dogs as a model for the cognitive implications of neuroanatomical variation. Talk presented at the Yale University East Coast Canine Cognition Workshop, New Haven, CT.

MacLean, E.L. & **Horschler, D.J.** (2018). Breed differences in dog cognition are predicted by absolute brain volume. Talk presented at the 126th Annual Convention of the American Psychological Association, San Francisco, CA.

Horschler, D.J. & MacLean, E.L. (2017). Absolute brain size predicts dog breed differences in executive function and social cognition. Poster presented at the UA-ASU Cognitive Science Conclave, Tucson, AZ.

Horschler, D.J. & MacLean, E.L. (2017). Absolute brain size predicts dog breed differences in working memory and social cognition. Poster presented at the North American Canine Science Forum, Tempe, AZ.

Internal Presentations

Horschler, D.J., Santos, L.R., & MacLean, E.L. (2019). Do monkeys understand knowledge and ignorance? Talk presented at the Anthropology Graduate Students at the University of Arizona (AGUA) Student Lecture Series, Tucson, AZ.

Horschler, D.J. (2019). What can dogs teach us about cognitive evolution? Talk presented at the UA Grad Slam Three-Minute Thesis Competition, Tucson, AZ.

† *Selected as a semifinalist in campus-wide competition*

Gnanadesikan, G.E., **Horschler, D.J.**, & MacLean, E.L. (2019). Social cues and hormonal profiles over development in wolf puppies. Poster presented at the GPSC Student Showcase, Tucson, AZ.

Horschler, D.J. & MacLean, E.L. (2018). Absolute brain size predicts dog breed differences in executive function and social cognition. Poster presented at the GPSC Student Showcase, Tucson, AZ.

Horschler, D.J., Susser, J.A., & Mulligan, N.W. (2016). Metamemory for performed and observed actions: Within-subjects. Poster presented at the UNC Psychology and Neuroscience Honors Poster Symposium, Chapel Hill, NC.

Horschler, D.J., Susser, J.A., & Mulligan, N.W. (2016). Metamemory for performed and observed actions: Within-subjects. Poster presented at the UNC Celebration of Undergraduate Research, Chapel Hill, NC.

Horschler, D.J. (2015) A brief overview of canine cognition research. Invited talk presented for PSYC 67: The Senses of Animals, Chapel Hill, NC.

Horschler, D.J. (2014). Insights into user experience at Lenovo. Poster presented at the Karen M. Gil Internship Program Poster Symposium, Chapel Hill, NC.

Teaching Experience

NSCS 200: Fundamentals of Neuroscience and Cognitive Science (Spring 2020)
Department of Neuroscience | School of Mind, Brain & Behavior | College of Science
Graduate Teaching Associate | ~160 students

ANTH 170C2: Animal Minds (Fall 2019)
School of Anthropology | College of Social and Behavioral Sciences
Graduate Teaching Associate | Two sections (~30 students each)

ANTH 327: Dog Thought (Spring 2019)
School of Anthropology | College of Social and Behavioral Sciences
Graduate Teaching Associate | ~150 students

NSCS 321: Research Methods in Cognitive Science (Fall 2018)
Department of Neuroscience | School of Mind, Brain & Behavior | College of Science
Graduate Teaching Assistant | ~110 students

ANTH 170: Human Variation in the Modern World (Fall 2017 & Spring 2018)
School of Anthropology | College of Social and Behavioral Sciences
Graduate Teaching Assistant | Two sections per semester (~30 students each)

Grants and Fellowships

Grants
UA Raphael and Jolene Gruener Research Travel Award (2020)
UA School of Anthropology Traditions, Transitions, & Treasures Research Grant (2020)
UA School of Anthropology Traditions, Transitions, & Treasures Research Grant (2019)
UA School of Anthropology Riecker Research Grant (2019)
UA Graduate & Professional Student Council Travel Grant (2019)
UA Graduate Interdisciplinary Programs Herbert E. Carter Travel Award (2019)
UA School of Anthropology Traditions, Transitions, & Treasures Travel Grant (2018)
UA Graduate & Professional Student Council Travel Grant (2018)
UNC-CH Psychology and Neuroscience Gillian T. Cell Senior Thesis Award (2015)

Fellowships
UA Haury Dissertation Fellowship (2020 – 2021)
UA Graduate College Fellowship (2016 – 2018)
UA Graduate Access Fellowship (2016 – 2017)
UA School of Anthropology Emil W. Haury Fellowship (2016 – 2017)

Selected Media Coverage

Absolute brain size predicts dog breed differences in executive function, *Animal Cognition*
ScienceDaily | Sky News | Insider | Psychology Today | London talkRADIO |
The Naked Scientists Podcast | Arizona Public Media (NPR/PBS) |
ABC 15 (Phoenix, AZ) | KOLD News 13 (Tucson, AZ) | KVOI Radio (Tucson, AZ)

Other Research Coverage
KOLD News 13 (Tucson, AZ): UA studies potential for working pups, saving time and money
StarTribune (Stacy, MN): What separates dogs and wolves?
KJZZ Radio (Tucson, AZ): Arizona scientists study dog minds to better understand our own
The Daily Wildcat (Tuscon, AZ): Canine cognition center explores dog smarts
ABC 30 (Fresno, CA): Schools across the country opening their doors to dogs

Commentary on Related Research
National Geographic: Centuries of breeding have reshaped dog brains—here's how
The Washington Post: As humans shaped dogs' bodies, we also altered their brains
Science Magazine: Humans haven't just changed what dogs look like—we've altered the very structure of their brains

Relevant Coursework

Animal Behavior | Biopsychology | Child Development | Cognitive Neuroscience of Imagination |
Cognitive Psychology | Cognitive Science Colloquium | Evolutionary Psychology |
Fundamentals of Evolutionary Biology | History of Anthropological Theory | Human Cognitive Evolution |
Human Evolutionary Biology | Introduction to Programming | Philosophy of Mind | Primate Behavior |
R Programming: Applied Statistical Analysis | R Programming: Data Analysis/Visualization |
R Programming: Intro/Multivariate Statistics | Statistical Principles of Psychological Research

Undergraduate Mentoring

Honors Thesis Supervision
Amelia Bryony (Fall 2019 – Spring 2020): "Dog brain size and executive function"
Tegan Wambold (Fall 2017 – Spring 2018): "Shared intentionality between humans and canines"

Directed Research Supervision
Thomas Kile (Fall 2017 – Spring 2019)
Julia Kemper (Spring 2017)
Lindsey Lang (Spring 2017)

Science Outreach

Letters to a Pre-Scientist (2020 – 2021)
STEM pen pal with a middle school student from an underserved community

Research Demonstration for AP/Honors High School Students, Tucson, AZ (2018 & 2019)
Dog cognition experiment demo organized by the Office of Admissions, University of Arizona

Dogtoberfest Dog Festival, Tucson, AZ (2017 & 2018)
Dog cognition experiment demo at a fundraiser for Handi-Dogs, Inc.

Dog Days with the Dean, Tucson, AZ (2017)
Dog cognition experiment demo organized by the Dean of Students Office, University of Arizona

Storm Phobia in Shelter Dogs, Tucson, AZ (2016)
Advised the First LEGO League Robotics team at Sunrise Drive Elementary School

Undergraduate Poster Symposium, Chapel Hill, NC (2015)
Poster judge for PSYC 67: The Senses of Animals

BarkFest Dog Festival, New York City, NY (2015)
Represented and recruited participants for the Canine Cognition Center at Yale

Professional Service

Ad-Hoc Reviewer
Animal Cognition | *Frontiers in Veterinary Science* | *Journal of Comparative Psychology* | *Scientific Reports*

Research and Projects Grant Reviewer
Graduate & Professional Student Council, University of Arizona

Travel Grant Reviewer
Graduate & Professional Student Council, University of Arizona

Membership
Comparative Cognition Society | Cognitive Science Society