

**KRISTINA M. HORBACK**  
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**EDUCATION**

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- 2012     **PhD Experimental Psychology**  
University of Southern Mississippi, Hattiesburg, MS  
Dissertation: Temporal consistency of personality assessment in African elephants
- 2011     **MA Experimental Psychology**  
University of Southern Mississippi, Hattiesburg, MS  
Thesis: Variation in tactile behavior throughout the estrous cycle of a killer whale
- 2007     **BA Psychology**  
University of California: San Diego, La Jolla, CA  
Minor in Biology

**EMPLOYMENT**

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- Sept 2016     **Assistant Professor, Applied Ethology**  
Department of Animal Science  
University of California, Davis, CA
- 2012-2016     **Postdoctoral Researcher**  
Swine Teaching and Research Center  
Department of Clinical Studies, University of Pennsylvania, Philadelphia, PA
- Investigate ontogeny of personality traits in commercial and heritage swine breeds.
  - Assess psychological welfare of gestating sows using cognitive bias testing.
  - Collaborate with large-scale commercial farms to examine the impact of environmental enrichment on animal welfare.
  - Mentor veterinary student research projects for presentation at the American Association of Swine Veterinarians annual conference.
- 2015     **Course Designer**  
Chicago Zoological Society, Brookfield, IL
- Developed 36 lectures and narration for an online course on the history, and methodology of valid and reliable animal behavioral data collection and analysis.
  - Focused course on the importance of both pure research (proximate and ultimate questions of ethology) and applied research (enrichment, activity budgets).
  - Created quizzes, final exam and eight instructional videos from footage collected at Brookfield Zoo.
- 2009-2012     **Laboratory Manager**  
Marine Mammal Behavior and Cognition Laboratory  
Department of Psychology, University of Southern Mississippi, Hattiesburg, MS
- Trained research staff to collect valid and reliable behavioral data.
  - Compiled biannual reports of research progress for grant review.
  - Scheduled student work shifts and monthly research surveys of Mississippi Sound.

**ADDITIONAL RESEARCH EXPERIENCE**

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- 2008-2012    **Research Assistant**, Advisor: Dr. Stan Kuczaj  
Mississippi Sound Wild Dolphin Project  
University of Southern Mississippi, Hattiesburg, MS
- Conducted weekly boat-based surveys in Mississippi Sound in collaboration with the Institute for Marine Mammal Studies.
  - Collected behavioral and environmental data to investigate site fidelity, seasonal movements, group associations, and acoustics of wild Atlantic bottlenose dolphins.
- 2008        **Research Assistant**, Advisor: Dr. John Hoogland  
University of Maryland Center for Environmental Science  
Arapaho National Wildlife Refuge, Walden, CO
- Conducted live-trapping, ear-tagging, and daily field observations of black-tailed prairie dog colony as relates to mating and predator avoidance.
  - Collected blood samples for analysis of paternity/family structure.
- 2005-2007    **Research Assistant**, Advisor: Dr. Christine Johnson  
Department of Cognitive Science  
University of California San Diego, La Jolla, CA
- Collected and analyzed video data for long-term study of the ontogeny of social coordination of attention in infant bonobos at the San Diego Zoo.
  - Designed and implemented study of gestural communication in beluga whales at Sea World: San Diego.

**GRANTS/AWARDS**

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- 2016        **Humane Society International, Travel Award** (awarded \$200)
- 50th International Society of Applied Ethology Congress, Edinburgh, Scotland, UK
- 2015        **Wiederhold Foundation** (awarded \$75,000) – Co-PI
- Improving farm animal welfare: Understanding positive affective states
- 2014        **Kraft Foods/Oscar Mayer, Animal Welfare Research** (awarded \$60,000) – Co-PI
- New tools for measuring welfare: Cognitive bias and sleep in swine
- 2014        **Humane Society International, Travel Award** (awarded \$750)
- 48th International Society of Applied Ethology Congress, Vitoria-Gasteiz, Spain

**PROFESSIONAL EXPERIENCE**

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- 2012-present    **Organizer, Animal Welfare Journal Club**  
University of Pennsylvania, School of Veterinary Medicine
- Manage bi-monthly meetings with veterinarians and students to discuss relevant publications in the field of animal welfare and ethics.
- 2008-2012    **Editorial Assistant**  
International Journal of Comparative Psychology
- Revised and formatted peer reviewed manuscripts according to APA standards.
  - Maintained correspondence with authors and peer reviewers.

**MANUSCRIPTS IN PREPARATION**

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- Horback, K.** & Parsons, T. (in prep). Cognitive bias in group housed gestating sows. *Animal Behavior*.
- Horback, K.** & Parsons, T. (in prep). Ontogeny of coping behaviors in sows. *Applied Animal Behavior Science*.

**PUBLICATIONS**

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- Horback, K.**, Pierdon, M., & Parsons, T. (in press). Behavioral preference for enrichment type in group housed gestating sows. *Applied Animal Behavior Science*.
- Horback, K.** & Parsons, T. (2016). Temporal stability of personality traits in group-housed gestating sows. *Animal*, 1-9.
- Hacker, C., **Horback, K.**, & Miller, L. (2015). GPS technology as a proxy tool for determining relationships in social animals: An example with African elephants. *Applied Animal Behavior Science*, 163, 175-182.
- Horback, K.**, Miller, L., Andrews, J., & Kuczaj, S. (2014). Daytime versus nighttime activity budgets of zoo African elephants. *Zoo Biology*, 33, 403-410.
- Horback, K.** (2014). Nosing around: Play in pigs. *Animal Behavior Cognition*, 1, 186-196.
- Horback, K.**, Miller, L., & Kuczaj, S. (2013). Personality assessment in African elephants: Consistency over time. *Applied Animal Behavior Science*, 149, 55-62.
- Horback, K.**, Muraco, H., & Kuczaj, S. (2012). Variations in interspecific social behavior throughout the estrous cycle of a killer whale. *Aquatic Mammals*, 38, 428-434.
- Horback, K.**, Miller, L., Andrews, J., Kuczaj, S., & Anderson, M. (2012). The effects of GPS collars on African elephant behavior. *Applied Animal Behavior Science*, 142, 76-81.
- Horback, K.**, Friedman, W., & Johnson, C. (2010). Occurrence and context of S-postures in beluga whales. *International Journal of Comparative Psychology*, 23, 689-700.

**INVITED CHAPTERS**

- Horback, K.** (in press). Personality in swine. In J. Vonk, S. Kuczaj and A. Weiss (Eds.), *Personality in non-human animals*. Springer.
- Kuczaj, S., & **Horback, K.** (2013). Play and emotions. In S. Watanabe and S. Kuczaj (Eds.), *Comparative perspectives on human and animal emotions* (pp. 87-112). Springer.

**INVITED TALKS**

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- 2016 Human Animal Bond course, University of Pennsylvania School of Veterinary Medicine, PA
  - *Personality differences in operant conditioning of sows* (March 2016)
- 2015 Hormones and Behavior course, Department of Biology, Bryn Mawr College, PA
  - *Swine hormones and behavior* (May 2015)
 Pennsylvania Alliance for Livestock Care and Well-Being Meeting, Kennett Square, PA
  - *Assessing animal welfare using behavior* (March 2015)
- 2013 Penn Vet Behavior Club, University of Pennsylvania School of Veterinary Medicine, PA
  - *Swine welfare* (Nov 2013)

**PEER REVIEWER**

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Animal, Animal Behavior and Cognition, Behavioural Processes, International Journal of Comparative Psychology, Journal of Ecology and the Natural Environment, Zoological Studies

**TEACHING EXPERIENCE**

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- 2015      **Course Designer/Instructor**  
University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA
- Animal Welfare: Assessment and Ethics (Spring 2015, Fall 2015)
- 2012-2015      **Guest Lecturer**  
University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA
- *Animal Welfare and Ethics*, Animal Production Systems (Fall 2012-2015)
  - *Farm Animal Welfare*, Swine Husbandry (Fall 2012-2015)
- 2009-2012      **Course Instructor**  
Department of Psychology, University of Southern Mississippi, Hattiesburg, MS
- Behavioral Neuroscience (Fall 2009, Spring 2012)
  - Social Psychology (Fall 2011, Spring 2012)
  - Introduction to Statistics for Behavioral Sciences (Fall 2011)
- 2010-2011      **Teaching Assistant**  
Department of Psychology, University of Southern Mississippi, Hattiesburg, MS
- Advanced Developmental Psychology (Spring 2011)
  - Animal Behavior (Fall 2010)
  - Introduction to Psychology Honors Course (Spring 2010)

**PRESENTATIONS**

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- Horback, K., & Parsons, T.** (2016, July). Ontogeny of coping behaviors in sows. To be an oral presentation at the 50<sup>th</sup> International Society of Applied Ethology Congress, Edinburgh, Scotland, UK.
- Horback, K., & Parsons, T.** (2016, June). Ontogeny of coping behaviors in sows: From birth to adulthood. To be a poster presentation at the 2016 Annual Faculty Research Retreat, University of Pennsylvania, Kennett Square, PA.
- Horback, K., & Parsons, T.** (2015, June). Cognitive bias in group housed sows. Poster presentation at 2015 Annual Faculty Research Retreat, University of Pennsylvania, Kennett Square, PA.
- Horback, K., Murray, M., & Parsons, T.** (2014, July). Cognitive bias in gestating sows. Oral presentation at the 48<sup>th</sup> International Society of Applied Ethology Congress, Vitoria-Gasteiz, Spain.
- Horback, K., & Parsons, T.** (2014, April). Cognitive bias in gestating sows. Poster presentation at Mahoney Institute for Neurosciences 30<sup>th</sup> Annual Retreat, University of Pennsylvania, Philadelphia, PA.
- Horback, K., & Parsons, T.** (2013, July). Personality assessment of group housed sows. Poster presentation at the 50<sup>th</sup> Anniversary Meeting of the Animal Behavior Society, Boulder, CO.
- Horback, K., & Parsons, T.** (2013, June). Personality assessment of group housed sows. Poster presentation at 2013 Annual Faculty Research Retreat, University of Pennsylvania, Kennett Square, PA.
- Horback, K., Muraco, H., & Kuczaj, S.** (2011, April). Variations in Social Behavior Throughout the Estrous Cycle of a Captive Killer Whale. Oral presentation at the 2011 Graduate Student Research Symposium, University of Southern Mississippi, Hattiesburg, MS.
- Horback, K., Friedman, W., & Johnson, C.** (2009, October). The influence of cohabitant harbor seals on S-posture display in captive beluga whales. Poster presentation at the 18<sup>th</sup> Biennial Conference of Marine Mammals, Quebec City, QC, Canada.

**PROFESSIONAL AFFILIATION**

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Animal Behavior Society, International Society for Applied Ethology, National Postdoctoral Association

**COMMUNITY OUTREACH**

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- 2014-2015     Presenter at “Meet a Mentor”  
 Student American Veterinary Medical Association, Philadelphia, PA
- 2013-2015     Educational volunteer at “Today’s agriculture” swine exhibit  
 Pennsylvania Farm Show, Harrisburg, PA

**MENTORED PROJECTS (selected)**

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- Manoharan, S., **Horback, K.**, & Parsons, T. (2016, Feb). Correlation between aggression and cognitive bias in gestating sows. Presented at the American Association of Swine Veterinarians, New Orleans, LA, USA.
- <sup>1</sup>Conniff, K., **Horback, K.**, & Parsons, T. (2015, March). Measuring the affective state of heritage breed swine in “Penn” gestation. Presented at the American Association of Swine Veterinarians, Orlando, FL, USA.
- Sopronyi, J., **Horback, K.**, & Parsons, T. (2015, March). Evaluation of sleep-wake cycle and behavioral indicators of REM in gestating sows. Presented at the American Association of Swine Veterinarians, Orlando, FL, USA.
- Cook, M., **Horback, K.**, & Parsons, T. (2014, March). Variation in sow vocalizations during restraint. Presented at the American Association of Swine Veterinarians, Dallas, TX, USA.
- <sup>2</sup>Murray, M. **Horback, K.**, & Parsons, T. (2014, March). Cognitive bias in gestating sows. Presented at the American Association of Swine Veterinarians, Dallas, TX, USA
- Pavlovic, L., Dunipace, S., **Horback, K.**, & Parsons, T. (2014, March). Behavioral assessment of gestating sows via ear-mounted accelerometers. Presented at the American Association of Swine Veterinarians, Dallas, TX, USA.
- <sup>2</sup>Blaustein, A., **Horback, K.**, & Parsons, T. (2013, March). Correlation of individual differences to different environmental stressors in group housed sows. Presented at American Association of Swine Veterinarians, San Diego, CA, USA.
- Katz, J., **Horback, K.**, & Parsons, T. (2013, March). Use of daily feeding order at an electronic sow feeder (ESF) to improve the individual animal care of group housed sows. Presented at American Association of Swine Veterinarians, San Diego, CA, USA.

<sup>1</sup>Project funded by the NIH Merit *Veterinary Scholars Program*

<sup>2</sup>Projects funded by American Humane Associate *Humane Scholars Program*

**SOFTWARE SKILLS**

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IBM Statistical Package for Social Sciences (SPSS), Microsoft Office (Word, Excel, PowerPoint), MATLAB, Noldus Observer XT, Gephi (social network analysis), Windows Movie Maker, R Statistical Programming Language

## **MEDIA COVERAGE**

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- Avril, T. (2016, August 7). Happy as a pig? Penn scientists have the chops to assess porkers' psychological well-being. *Philadelphia Inquirer*. Retrieved from [http://www.philly.com/philly/news/science/Penn\\_scientists\\_have\\_the\\_chops\\_to\\_assess\\_pigs\\_psychological\\_well-being.html](http://www.philly.com/philly/news/science/Penn_scientists_have_the_chops_to_assess_pigs_psychological_well-being.html).
- Everline, T. (2015, February 17). The Quest To Build A Better Pig That's Easier To Raise Humanely. *Fast Company*. Retrieved from <http://www.fastcoexist.com/3041802/the-quest-to-build-a-better-pig-thats-easier-to-raise-humanely>.
- Wright, A. (2014, March 10). Pigheaded: How smart are swine? *The Modern Farmer*. Retrieved from <http://modernfarmer.com/2014/03/pigheaded-smart-swine>.
- Cudmore, B. (2013, December 5). Elephants are aggressive, but fish just bite? *The Scientist*. Retrieved from <http://www.the-scientist.com/?articles.view/articleNo/38534/title/Elephants-Are-Aggressive-but-Fish-Just-Bite>.

## **PROFESSIONAL REFERENCES**

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Thomas Parsons, VMD, PhD  
Associate Professor of Swine Production Medicine  
Director, Swine Research and Training Center  
University of Pennsylvania, School of Veterinary Medicine  
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Equine Behavior Program  
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Lance Miller, PhD  
Senior Director of Animal Welfare Research  
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