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CURRICULUM VITA

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Education

1980 B.A. Biology cum laude, Millersville University, Millersville, PA.

1983 M.A. Biology, Wake Forest University, Winston-Salem, NC.

Thesis title: Food Supply And Home Range In The Fox Squirrel (*Sciurus niger*).

1989 Ph.D. Zoology (Behavioral Ecology), Colorado State University, Fort Collins, CO.

Dissertation title: The Effects Of Time And Metabolic Requirement On Foraging Behavior Of Captive Gray Jays.

Professional Experience

1982-1983 Research assistant, Wake Forest University.

1983-1988 Teaching assistant, Department of Zoology/Biology, Colorado State University. Courses taught: Mammalogy, Vertebrate Biology.

Spring 1986 Instructor for Vertebrate Biology, Zoology Department, Colorado State University.

1988-1989 Instructor for Principles of Animal Biology (freshman majors/non-majors lab course), Biology Department, Colorado State University

1989-1990 Temporary Assistant Professor for Principles of Animal Biology (all semesters), Vertebrate Biology (fall), and Graduate Seminar in Behavior: Evolution of Social Systems and Behavior (spring), Biology Department, Colorado State University.

1990-1992 Research Scientist III, University of Washington Regional Primate Research Center.

1991-1992 Lecturer, Psychology Department, University of Washington, Seattle.

1992-1999 Research Assistant Professor, Department of Psychology and Washington National Primate Research Center, University of Washington.

- 1993-present Research Affiliate, Child Development and Mental Retardation Center, University of Washington.

1996, 1998 Visiting Scientist, Population Genetics Laboratory, Southwest Foundation for Biomedical Research, San Antonio TX.

1999-2013 Research Associate Professor, Department of Psychology and Washington National Primate Research Center, University of Washington.

2001-2010 Data Management Administrator, Infant Primate Research Laboratory, University of Washington.

- 2004-present Credentialed as a Certified Applied Animal Behaviorist by the Animal Behavior Society ([www.animalbehavior.org](http://www.animalbehavior.org))

2006-2010 PI/Director of the Colony Demographics and Genetics Program, Washington National Primate Research Center

2010-2014 PI/Director of Breeding Colony Management Division, Washington National Primate Research Center

- 2013-present Research Full Professor, Department of Psychology, University of Washington.
- 2014-present Honorary Research Associate, School of Graduate Studies, University of New Brunswick, Canada.

### Research Grants

- 1979 Research grant from Millersville University Alumni Foundation's Niemeyer Student Research Fund.
- 1980 Grant for travel expenses from Millersville University Alumni Foundation's Niemeyer Student Research Fund.
- 1984 Research grant: Harris and Eliza Kempner Foundation (with S.D. Farley) for "Risk-sensitive foraging by gray jays in a closed economy."
- 1987 Colorado Mountain Club Foundation Research Fellowship for "Foraging behavior in free-ranging gray jays."
- 1992 Active contributor to budget, drafting, submission, and review process for 5-year Regional Primate Research Center Core Grants, including development of new programs in both Basic and Colony Health-Related Research categories. My unit provided 65% of my salary, and supported primate-based research activities.
- 1997, 1998 Supervised grant-writing and award process for graduate student grants awarded to Renee Robinette from the Animal Behavior Society Research Grants Program and Sigma Xi.
- 1997 Active contributor to budget, drafting, submission, and review process for successful 5-year Regional Primate Research Center Core Grants, including development of new programs in both Basic and Colony Health-Related Research categories. Budgets for these new programs under my supervision supported 65% of my salary and supported my primate-based research activities.
- 2002 Active contributor to budget, drafting, submission, and review process for successful 5-year Regional Primate Research Center Core Grants, including development of new programs in both Basic and Colony Health-Related Research categories. Budgets for these new programs under my supervision supported 65% of my salary and supported my primate-based research activities.
- 2003 Active contributor to budget, drafting, submission, and review process for successful 5-year Center for Human Development and Disability Core Grant.
- 2003 Contract from Northwest Fisheries Research Center, NMFS: Proposal to the National Marine Fisheries Service, Northwest Fisheries Research Center: Social Behavior and Affiliation Patterns in Southern Resident Orca (*Orcinus orca*), \$35,000.
- 2004 Co-PI, with Dr. Linda Jones (Northwest Fisheries Research Center, NOAA), Proposal to the National Marine Fisheries Service, Northwest Fisheries Research Center: Social Behavior and Affiliation Patterns in Southern Resident Orca (*Orcinus orca*): Year 2, \$45,000.
- 2005 Co-PI, with Dr. Linda Jones (Northwest Fisheries Research Center, NOAA), Proposal to the National Marine Fisheries Service, Northwest Fisheries Research Center: Social Behavior and Affiliation Patterns in Southern Resident Orca (*Orcinus orca*): Year 3, \$50,000.
- 2005 Co-PI, USFWS Contract Awarded 2005-2006 – Study Endangered Avian Species on N. Mariana Islands (\$110,000)
- 2005 Co-PI, USFWS Supplemental Awarded 2005-2006 – Study Endangered Avian Species on N. Mariana Islands (\$179,808)
- 2006 Co-PI, USFWS Contract Awarded 2006-2007 – Study Endangered Avian Species on N. Mariana Islands (\$205,000)
- 2006 Co-PI, USFWS Supplemental Awarded – An updated census of the current Mariana crow pairs on the island of Rota (\$32,000)
- 2007 Active contributor to budget, drafting, submission, and review process for successful 5-year National Primate Research Center Core Grants, including development of new unit and sub-proposal for Breeding Colony Management Services.
- 2007 Subunit PI, Washington National Primate Research Center P51 Base Grant, Breeding Colony Management Services (\$117,000)
- 2007 Co-PI, USFWS Contract Awarded 2007-2008 – Study Endangered Avian Species on N. Mariana Islands (\$172,000)

- 2008 Subunit PI, Washington National Primate Research Center P51 Base Grant, Breeding Colony Management Services (\$121,375)
- 2008 Co-PI, USFWS Contract Awarded 2008-2009 – Study Endangered Avian Species on N. Mariana Islands (\$247,000)
- 2009 Subunit PI, Washington National Primate Research Center P51 Base Grant, Breeding Colony Management Services (\$125,016)
- 2009 Co-PI, USFWS Contract Awarded 2009-2010 – Study Endangered Avian Species on N. Mariana Islands (\$201,000)
- 2009 Co-PI, USFWS Supplemental Awarded – Radiotracking the Mariana crow on the island of Rota (\$89,200)
- 2010 Subunit PI, Washington National Primate Research Center P51 Base Grant, Breeding Colony Management Services (\$128,767)
- 2010 Co-PI, USFWS Contract Awarded - 2010-2011 – Study Endangered Avian Species on N. Mariana Islands (\$199,184)
- 2010-present, NOAA Western Regional Office, Contract to Develop a Multivariate Permit Approval Process for Southern Resident Killer Whale Harassment and Take (\$5,000).
- 2011 Subunit PI, Washington National Primate Research Center P51 Base Grant, Breeding Colony Management Services (\$132,630)
- 2011 Co-PI, USFWS Contract Awarded - 2011-2012 – Study Endangered Avian Species on N. Mariana Islands (\$196,000)
- 2011 Co-PI, USFWS Supplemental Awarded – Rehabilitation of Injured Birds and Control of predators on Rota (\$119,600).
- 2011 Co-PI, USFWS Supplemental Awarded – Public Perception Survey of Native Peoples on Rota, Northern Mariana Islands (\$36,800).
- 2012 Active contributor to budget, drafting, submission, and review process for successful 5-year National Primate Research Center Core Grants, including sub-proposal with expanded funding for Breeding Colony Management Services, and development of new Animal Training Program.
- 2012 Subunit PI, Washington National Primate Research Center P51 Base Grant, Breeding Colony Management Services (\$516,940)
- 2012 Co-PI, USFWS Contract Awarded - 2012-2013 – Study Endangered Avian Species on N. Mariana Islands (\$262,669).
- 2012-2014 Pilot Grant from WaNPRC Director's Office for: Monitoring of Temperament, Social Aggression, Stress Physiology, and Reproductive Outcomes in Pair- and Group-housed Pigtailed Macaques (*Macaca nemestrina*) (\$65,000).
- 2012 PI, Dolphin Research Center (private foundation) grant for Wild Dolphin Ecology Project (Year 1) (\$65,000)
- 2013 Co-PI, USFWS Contract Awarded – 2013-2014 Study Endangered Avian Species on N. Mariana Islands (\$116,685).
- 2013 Co-PI, USFWS Contract Awarded – 2013-2014 Study Endangered Avian Species on N. Mariana Islands (\$178,491).
- 2014 PI, ASPCA grant for Animal Behavior Society workshop, “One Health Symposium”

#### International Activities

- Ha, J.C., B. Dyke, and G.P. Sackett. Heritability of behavioral milestones in infant pigtailed macaque monkeys. Annual meeting of the Behavior Genetics Association, Vancouver Canada, July 4-7, 1999.
- Sackett, G.P. and J.C. Ha. 1996. Multiple spell survival analysis as a method for studying low rate behaviors over sessions. International Conference on Measuring Behavior, Netherlands, October 14-18, 1996.
- The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Behavioral Ecology Institute, National University of Mexico, Mexico City Mexico, 14 December 2002.

- Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, St. Andrews University, Scotland. 1 September, 2005.
- Basic and Applied Behavior: Social Foraging and Conservation of Crows, Invited seminar, St. Andrews University, Scotland. 1 September, 2005.
- Editor, International journal: Animal Behaviour, 2005-2008
- Short Course. An Introduction to Basic Statistics. University of Brasilia, Brasilia, Brazil. April 14-19, 2008.
- Short Course. An Introduction to Basic Statistics. Sao Paulo State University, Sao Jose do Rio Preto, Brazil. April 22-25, 2008.
- Biologists In Need Of Mathematicians: A Few Examples of Mathematics in Animal Behavior, Invited seminar, Department of Computing and Statistics, Sao Paulo State University, Sao Jose do Rio Preto, Brazil. April 28, 2008.
- Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, Department of Biological Sciences, Sao Paulo State University, Sao Jose do Rio Preto, Brazil. April 28, 2008.
- Fellowship as Visiting Scientist, Brazilian Research Council, 2008.
- US delegate to International Council of Ethologists, 2008-2014.
- Ha, J.C. 2010. The Social Behavior of Highly Cognitive Species: Examples from Primates, Crows, and Killer Whales. Keynote Lecture, North American Regional Meeting of the International Society for Applied Ethology, Washington State University, Pullman WA, May 27, 2010.
- Ha, R.R., Faegre, S., and Ha, J.C. 2010. Rules of dispersal in the endangered Mariana crow (*Corvus kubaryi*) and potential effects on population size. International Society for Applied Ethology, Pullman WA, May 27-28, 2010.
- Short Course. The Mis-Behavior of Dogs and Cats: An Introduction to Applied Animal Behavior. Universidade Federal de Alfenas, Alfenas, Brazil. November 12, 2010.
- Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited plenary seminar, XXVIII Annual Meeting of the Brazilian Society for Ethology and the II Latin-American Symposium of Ethology. Universidade Federal de Alfenas, Alfenas, Brazil. November 12-15, 2010.
- Behavioral Genetics and the Evolution of the Domestic Dog: Implications for Social Behavior, Invited plenary seminar, 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.

### Scientific Publications

- Zegers, D.A. and J.C. Ha. 1981. Niche separation of *Peromyscus leucopus* and *Blarina brevicauda*. J. Mammal. 62:199-201.
- Ha, J.C., P.N. Lehner and S.D. Farley. 1990. Risk-prone foraging behavior in captive gray jays (*Perisoreus canadensis*). Anim. Behav. 39:91-96.
- Weigl, P.D., L. Sherman-Jones, M.A. Steele, J.C. Ha and T. Sharpe. 1990. The ecology of the fox squirrel (*Sciurus niger*) in North Carolina: implications for survival in the southeast. Bull. Tall Timbers Res. Sta. 24:1-93.
- Ha, J.C. and P.N. Lehner. 1990. Notes on gray jay demographics in Colorado. Wilson Bull. 102:698-702.
- Ha, J.C. 1991. Risk-sensitive foraging: the role of ambient temperature and foraging time. Anim. Behav. 41:528-529.
- Luhring, K.A., J.C. Ha and P.N. Lehner. 1992. Gray jay (*Perisoreus canadensis*) agonistic displays. Northwestern Naturalist 73:22- 24.
- Kimpo, C., J. Ha, S. Sulzbacher, and H. Ochs. 1994. The analysis of incomplete longitudinal data sets. Clinical Research 42:107A.
- Ha, J.C., C. Nosbisch, J.D. Unadkat, S.H. Conrad, G.C. Ruppenthal, G.P. Sackett, and J. Abkowitz. 1994. Fetal toxicity of zidovudine (azidothymidine) in *Macaca nemestrina*: preliminary observations. Journal of A.I.D.S. 7:154-157.

- Kimpo, C., J. Ha, G. Sackett, and H. Ochs. 1994. Developmental effects of prenatal exposure to SIV and HIV virus in infant pig-tailed macaques (*Macaca nemestrina*) and HIV exposure in human subjects. *J. Medical Primatology* 23:256.
- Robinette, R., J. Ha, C. Kimpo, and G. Sackett. 1995. Gross motor development in infant *Macaca nemestrina* using a new climbing apparatus. *Amer. J. Primatology* 35:319-326.
- Conrad, S., J.C. Ha, C. Lohr, and G. Sackett. 1995. Ultrasonic assessment of fetal growth in the pigtailed macaque (*Macaca nemestrina*). *Amer. J. Primatology* 36:15-35.
- Ha, J.C. 1996. Book review: *Alpha Males: An Early History of the Regional Primate Research Centers*, by W.R. Dukelow. *Animal Behaviour* 52:1059-1060.
- Knapp, L.A., J.C. Ha, and G.P. Sackett. 1996. Parental MHC antigen sharing and pregnancy wastage in captive pigtailed macaques. *J. Reproductive Immunology* 32:73-88.
- Ha, J.C., C.L. Kimpo and G.P. Sackett. 1997. Multiple-spell discrete-time survival analysis of developmental data: object concept in pigtailed macaques. *Developmental Psychology* 33:1054-1059.
- Robinette, R.L. and J.C. Ha. 1997. The significance of fishing behavior by Northwestern crows. *Wilson Bulletin* 109:748-749.
- Unis, A.S., M.D. Roberson, R. Robinette, J.C. Ha and D.M. Dorsa. 1998. Ontogeny of human forebrain dopamine receptors: I. Differential expression of [3H]-SCH23390 and [3H]-YM09151-2 specific binding. *Developmental Brain Research* 106:109-117.
- Ha, J.C., C. Nosbisch, J.L. Abkowitz, S.H. Conrad, N.K. Mottet, G.C. Ruppenthal, R. Robinette, G.P. Sackett, and J.D. Unadkat. 1998. Fetal, infant, and maternal toxicity of zidovudine (azidothymidine) administered throughout pregnancy in *Macaca nemestrina*. *Journal of Acquired Immune Deficiency Syndrome and Human Retrovirology* 18:27-38.
- Heath-Lange, S., J.C. Ha and G.P. Sackett. 1999. Behavioral measurement of temperament in male nursery-raised infant macaques and baboons. *American Journal of Primatology* 47:43-50.
- Ha, J.C., R.L. Robinette and G.P. Sackett. 1999. Social housing and pregnancy outcome in captive pigtailed macaques. *American Journal of Primatology* 47:153-163.
- Ha, J.C., R.L. Robinette, and A. Davis. 2000. Survival and reproduction in the first two years following a large-scale primate colony move and social reorganization. *American Journal of Primatology* 50:131-138.
- Robinette, R.L. and J.C. Ha. 2000. Beach-foraging behavior of Northwestern crows as a function of tide height. *Northwestern Naturalist* 81:18-21.
- Nair, S., J.C. Ha and J. Rogers. 2000. Nineteen new microsatellite DNA polymorphisms in pigtailed macaques (*Macaca nemestrina*). *Primates* 41:343-350.
- Ha, J.C., R.L. Robinette, and G.P. Sackett. 2000. A demographic analysis of the Washington Regional Primate Research Center pigtailed macaque colony, 1962-1997. *American Journal of Primatology* 52: 187-198.
- Robinette, R.L. and J.C. Ha. 2001. Social and ecological factors influencing vigilance by Northwestern crows (*Corvus caurinus*). *Animal Behaviour* 62:447-452.
- Ha, J.C., R.L. Robinette, L. Almasy, and B. Dyke. 2002. Heritability of birthweight in pigtailed macaque monkeys. *American Journal of Primatology* 56:207-213.
- Robinette, R.L., P. Bentzen, J.L. Marsh and J.C. Ha. 2003. Kin discrimination in food stealing by Northwestern Crows (*Corvus caurinus*). *Bird Behavior* 15: 65-75.
- Ha, R.R. and J.C. Ha. 2003. Effects of prey type, prey density and energy requirements on the use of alternative foraging tactics in crows. *Animal Behaviour* 66: 309-316.
- Sellinger, R.L. and J.C. Ha. 2005. The effects of visitor density and intensity on the behavior of two captive jaguars (*Panthera onca*). *Journal of Applied Animal Welfare Science* 8: 233-244.
- Agness, A.M., J.F. Piatt, J.C. Ha, and G.R. VanBlaricom. 2007. Effects of vessel activity on the near shore ecology of the Kittlitz's murrelet (*Brachyramphus brevirostris*) in Glacier Bay, Alaska. *Auk* 125:346-353.
- Kanthaswamy, S., Capitanio, J. P., Dubay, C. J., Ferguson, B., Folks, T., Ha, J. C., Hotchkiss, C. E., Johnson, Z. P., Katze, M. G., Kean, L. S., Kubisch, H. Michael, Lank, S., Lyons, L. A., Miller, G.

- M., Nylander, J., O'Connor, D. H., Palermo, R. E., Smith, D. G., Vallender, E. J., Wiseman, R. W., Rogers, J. 2009. Resources for genetic management and genomics research on non-human primates at the National Primate Research Centers (NPRCs). *J. Medical Primatology*, 38:17-23.
- Bentson, K.L., C.M. Crockett, K.C. Wahl, E.P. Runeson, R.U. Bellanca, G.H. Lee, J.P. Thom, H. Montgomery, M.H. Yi, J.G.S. McComas, and J.C. Ha. 2010. Floating limb activity and self-biting in laboratory monkeys vary by subject selection criteria. *American Journal of Primatology*, 72:725-733.
- Ha, J.C., A. Butler, and R.R. Ha. 2010. Age-specific survival and population viability of the Mariana Crow (*Corvus kubaryi*) on Rota, CNMI. *Bird Conservation International*, 20:335-342.
- Ha, J. C., D. Mandell, and J. Gray. 2011. Black-white discrimination and Hamilton search learning in infant pigtailed macaque monkeys. *Behavioural Processes*, 86:1-6.
- Ha, R.R., J. Morton, J.C. Ha, L. Berry, and S. Plentovich. 2011. Nest site selection and the consequences for reproductive success for the endangered Mariana crow (*Corvus kubaryi*). *Wilson Journal of Ornithology*, 123:236–242.
- Stockinger, D.E., A.E. Torrence, R.R. Hukkanen., K. Vogel, C. Hotchkiss and J.C. Ha. 2011. Risk factors for dystocia in pigtailed macaques (*Macaca nemestrina*). *Comparative Medicine*, 61:170-175.
- Sussman, A. and J.C. Ha. 2011. Developmental and cross-situational stability in infant pigtailed macaque temperament. *Developmental Psychology*, 47:781-791.
- Hayward, L.S., J.C. Ha, and S.K. Wasser. 2011. Northern spotted owl glucocorticoid response to disturbance from motorcycles varies with life history variables and nutritional status. *Ecosphere*, 2(6):art65. doi:10.1890/ES10-00199.1.
- Alloway, H., J.C. Ha, and A. Sussman. 2011. The effect of aggression on reproductive outcome in pigtailed macaques (*Macaca nemestrina*). *American Journal of Primatology*, 73(11): 1169-1175.
- Fong, D., J.C. Ha, and C. Hotchkiss. 2012. Effects of age and gender on thromboelastography in pigtail macaques (*Macaca nemestrina*) and reference intervals. *Journal of the American Association for Laboratory Animal Science*, 51(1): 94-100.
- Carvalho, T.B., J.C. Ha and E. Gonçalves-de-Freitas. 2012. Light intensity can trigger different agonistic responses in juveniles of three cichlid species. *Marine and Freshwater Behaviour and Physiology*, 45(2): 91-100.
- Ha, J.C., J. Buckley, and R.R. Ha. 2012. The potential for typhoon impact on bird populations on the island of Rota, Northern Mariana Islands. *Micronesica*, 43:214-224.
- Kanthaswamy, S., J. Ng, M.C.T. Penedo, T. Ward, D.G. Smith and J.C. Ha. 2012. Population genetics of the Washington National Primate Research Center's (WaNPRC) captive pigtailed macaque (*Macaca nemestrina*) population. *American Journal of Primatology*, 74: 1017-1027.
- Cottam, N., N.H. Dodman and J.C. Ha. 2013. The Effectiveness of the Anxiety Wrap® in the Treatment of Canine Thunderstorm Phobia: An Open-Label Trial. *Journal of Veterinary Behavior*, 8: 154-161.
- Sussman, A., J.C. Ha, K. Bentson, and C. Crockett. 2013. Temperament in rhesus, longtailed and pigtailed macaques varies by species and sex. *American Journal of Primatology* 75:303-313.
- Agness, A.M., K.N. Marshall, J.F. Piatt, J.C. Ha, and G.R. VanBlaricom. 2013. Energy cost of vessel disturbance to Kittlitz's Murrelets *Brachyramphus brevirostris*. *Marine Ornithology* 41:13-21
- Burbacher, T.M., K.S. Grant, J. Worlein, J. Ha, E. Curnow, S. Juul, G.P. Sackett. 2013. Four decades of leading-edge research in the reproductive and developmental sciences: the Infant Primate Research Laboratory at the University of Washington. *American Journal of Primatology*, 75 (11), 1063-1083.
- Frederick, C., K. Hunt, R. Kyes, D. Collins, B. Durrant, J. Ha and S.K. Wasser. 2013. Social influences on the estrous cycle of the captive sun bear (*Helarctos malayanus*). *Zoo Biology* 32:581-591.
- Sussman, A.F., E.A. Mates, J.C. Ha, K.L. Bentson, C.M. Crockett. 2014. Tenure in current captive setting and age predict personality changes in adult pigtailed macaques. *Animal Behaviour*, 89: 23–30.
- Andrews, N. and J.C. Ha. 2014. The effects of automated scatter feeders on captive grizzly bear activity budgets. *Journal of Applied Animal Behavior Science*, DOI: 10.1080/10888705.2013.856767.
- Zarones, L., M.R. Colon, J.C. Ha and R.R. Ha. Effects of foliage-invertebrate availability and forest structure on the abundance of the critically endangered Rota White-eye *Zosterop rotensis* in Rota, Mariana Islands. Accepted: *Bird Conservation International*.

- Ross, C.T., J.A. Weise, D. Nolin, J.S. Trask, D.G. Smith, J. Ng, B. Ferguson, J. Ha, M. Kubisch, A. Vinson, and S. Kanthaswamy. An Empirical Comparison of Short Tandem Repeats (STRs) and Single Nucleotide Polymorphisms (SNPs) for Relatedness Estimation in Chinese Rhesus Macaques (*Macaca mulatta*). Accepted: American Journal of Primatology.
- Mates, E., R. Tarter, J. Ha, A. Clark, K. McGowan. Acoustic profiling in a complexly social species, the American crow: caws encode information on caller sex, identity, and behavioral context. Accepted: Bioacoustics.
- Robinson, L.M., R. Skiver Thompson, and J.C. Ha. From puppy to companion: Reliability of companion dog temperament assessments predict puppy breed but fail to predict adult dog temperament. Accepted: Journal of Applied Animal Welfare Science.

#### Publications Submitted

- Andrews, N.L.P., E.J. Fernandez and J.C. Ha. An Enrichment Meta-Analysis: Reassessing Our Past to Plan for the Future. Submitted: Applied Animal Behavior Science.
- Sussman, A.F. and J.C. Ha. Nursery-rearing does not affect social behavior in group-housed juvenile pigtail macaque monkeys. Submitted: Developmental Psychobiology.

#### Publications in Revision

- Kremer, S., J.C. Ha, J.B. Cruz, and V.A. Camacho. Results of roadside bird surveys, Saipan, Commonwealth of the Northern Mariana Islands, 1991-2005. Accepted with revisions: Pacific Science.

Publications in Preparation: These are papers for which complete manuscripts are undergoing in-house editorial revision before submission. This list does not include data for which no manuscript has been prepared.

- McCune, K. and J.C. Ha. Social complexity in the Gray Jay: evidence for the “third bird”.
- Sussman, A.F. and J.C. Ha. A home-cage temperament test predicts social behavior and network structure in infant pigtailed macaques
- Hukkanen, R.R., A.T. Hutchison, R. Murnane, D. Gau, D.E. Lewis, and J.C. Ha. The incidence and severity of diarrhea varies between non-human primates of African and Asian origin: a comparison of baboons (*Papio cynocephalus* complex), and rhesus (*Macaca mulatta*), pig-tail (*Macaca nemestrina*), and long-tailed (*Macaca fascicularis*) macaques.
- Hinde, K., J.C. Ha, and L. Newell-Morris. Spontaneous abortion as a reproductive strategy in captive macaques of compromised maternal condition.
- Noren D.P., A. Larson, J. Marsh, J.C. Ha. Southern Resident killer whale behavioral responses to vessels (in prep, for submission to Endangered Species).
- Ha, S.J. and J.C. Ha. Geographic differences in call structure among Pacific Northwest crow populations.

#### Books and Book Chapters

- Ha, J.C. 1996. Microcomputers: an overview for ethologists. In: Lehner, P.N. Handbook of Ethological Methods. Cambridge University Press, NY. 512 pp.
- Ha, J.C. and A.E. Davis. 2006. Data management for the nonhuman primate nursery. Pp. 49-64. In: Sackett, G.P., G.C. Ruppenthal, and K. Elias. Nursery rearing of nonhuman primates in the 21st century. Developments in Primatology: Progress and Prospects, Springer, NY. 602 pp.
- Worlein, J.M., J.C. Ha, C. Harris, J. Leigh, K. Stratton, and R.J.R. Ho. 2006. Special challenges of rearing infant macaques infected with lentivirus (SIV, HIV, SHIV). Pp. 169-190. In: Sackett, G.P., G.C. Ruppenthal, and K. Elias. Nursery rearing of nonhuman primates in the 21st century. Developments in Primatology: Progress and Prospects, Springer, NY. 602 pp.
- Ha, J. 2010. Section Editor, Methodology. In M. Breed and J. Moore, Encyclopedia of Animal Behavior, Elsevier.
- Ha, R.L. and J.C. Ha. 2011. Textbook: Integrative Statistics for the Behavioral and Social Sciences. Sage, Inc.

Ha, J.C. 2012. Animal Identification and Record Keeping: Current Practice and Use. In: Abee, C.R., K. Mansfield, S.D. Tardif, and K. Morris. *Nonhuman Primates in Biomedical Research*, 2ed. Elsevier Publ.

#### Non-Peer-Reviewed Publications

Farley, S.D., J. Ha and P. Lehner. 1988. An inexpensive microcomputer and interface for control and data acquisition in the operant arena. *Physiological Ecology Section Newsletter, Ecological Society of America*. 1:4-6.

Ha, J.C., H. Alloway, C.J. Leeson. 2004. Book review: Setchell, J M & Curtis, D J. *Field and Laboratory Methods in Primatology*. *Ethology* 110: 575-578.

Ha, J.C. and R.R. Ha. 2005. Book review: Burghardt, G. *The genesis of animal play*. *Integrative and Comparative Biology*, 45, 952-953.

Ha, J.C. 2010. A very brief introduction to statistics, or what to look for in a research journal article: a three-part article. *Chronicle of the Dog*.

#### Scientific Presentations: Invited Paper Presentations, National or International Meetings

Preliminary Analysis of the WaRPRC Nemestrina Colony. AAAG/SFBR Workshop on Anthropological and Primate Genetics, Southwest Foundation for Biomedical Research, San Antonio TX, November 1998.

Heritability of behavioral milestones in infant pigtailed macaque monkeys. Annual meeting of the Behavior Genetics Association, Vancouver Canada, July 4-7, 1999.

The Social Behavior of Highly Cognitive Species: Examples from Primates, Crows, and Killer Whales. Keynote Lecture, North American Regional Meeting of the International Society for Applied Ethology, Washington State University, Pullman WA, May 27, 2010.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited plenary seminar, XXVIII Annual Meeting of the Brazilian Society for Ethology and the II Latin-American Symposium of Ethology. Universidade Federal de Alfenas, Alfenas, Brazil. November 12-15, 2010.

Behavioral Genetics and the Evolution of the Domestic Dog: Implications for Social Behavior, Invited plenary seminar, 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.

The Science of Courthouse Dog Behavior. Invited plenary seminar, First International Court House Dogs Symposium. Seattle, WA, USA. November 8, 2013.

Cutting Edge Directions In Modern Behavior Which Would, Should, Could Impact EE And Training In The Future. Keynote: Massachusetts Society for Medical Research, Annual Symposium on Enrichment, Boston, MA. March 2014.

The Power of Animal Models of Behavior: Social Behavior, Stress, and Reproduction in a Non-human Primate. Invited seminar: One World, One Health Symposium. Animal Behavior Society annual meeting, Princeton University, Princeton, NJ, USA. August 10, 2014.

Stress and Happiness in Dogs: You Should Know It When You See It. Second International Court House Dogs Symposium, Seattle WA, USA. October 27, 2014.

#### Scientific Presentations: Contributed Presentations, National or International Meetings

Zegers, D.A. and J.C. Ha. 1980. Niche separation of *Peromyscus leucopus* and *Blarina brevicauda*. Annual meeting of the American Society of Mammalogists, June 8-12, 1980.

Ha, J.C. and P.D. Weigl. 1981. The southeastern fox squirrel - unknown and endangered? Annual meeting of the American Society of Mammalogists, June 7- 11, 1981.

Weigl, P.D., P. Williams and J.C. Ha. 1981. Body size as an adaptive strategy in the fox squirrel (*Sciurus niger*). Annual meeting of the American Society of Mammalogists, June 7-11, 1981.

Weigl, P.D. and J.C. Ha. 1982. Comparative ecology of eastern and western populations of the fox squirrel (*Sciurus niger*). Annual meeting of the Ecological Society of America, August 8-12, 1982.



- Ha, J.C., P.D. Weigl and T. Sharpe. 1983. Food availability and home range in the fox squirrel (*Sciurus niger*). Annual meeting of the American Society of Mammalogists, June 19-23, 1983.
- Ha, J.C., S.D. Farley and P.N. Lehner. 1987. Gray jay (*Perisoreus canadensis*) responses to changes in food density within a closed economy laboratory simulation: temporal patterns and risk sensitivity. Annual meeting of the Animal Behavior Society, June 21-26, 1987.
- Arguello, S.H. and J.C. Ha. 1987. EVENT: Inexpensive microcomputer recording of rapidly changing, simultaneous observation data. Annual meeting of the Animal Behavior Society, June 21-26, 1987.
- Ha, J.C. 1988. Foraging behavior in captive gray jays (*Perisoreus canadensis*): response to altered foraging time and metabolic requirements. Annual meeting of the Animal Behavior Society, August 7-12, 1988.
- Luhning, K.A., P.N. Lehner and J.C. Ha. 1988. Agonistic behavior in gray jays (*Perisoreus canadensis*): a comparison to other corvids. Annual meeting of the Animal Behavior Society, August 7-12, 1988.
- Ha, J.C. and P.N. Lehner. 1990. Survivorship, movements, and group composition of gray jays in Colorado. Annual meeting of the Animal Behavior Society, June 11- 15, 1990.
- Ha, J.C. and A. Cepaitis. 1991. The role of harmonic and arithmetic means in risk- sensitive foraging by gray jays (*Perisoreus canadensis*). Annual meeting of the Animal Behavior Society, June 1-6, 1991.
- Ha, J.C. and G.P. Sackett. 1992. Paternal and nonpaternal male influences on pregnancy outcome in captive pigtail macaque monkeys (*Macaca nemestrina*). Annual meeting of the Animal Behavior Society, June 13-18, 1992.
- Ha, J., R. Robinette, C. Kimpo, and G. Sackett. 1992. The climbing tube: a new measure of motor control in infant pig-tailed macaques. Annual meeting of the American Society of Primatologists, June 19-21, 1992.
- Nosbisch, C., J.D. Unadkat, J.C. Ha, S.H. Conrad, G.C. Ruppenthal, and G.P. Sackett. 1992. Fetal toxicity of zidovudine. VIII International Conference on AIDS, July 19-24, 1992.
- Bowden, D., M. Agy, D. Anderson, C. Kimpo, J. Ha, G. Sackett et al. 1993. Neurobehavioral AIDS induced by SIMVne or HIV-1 in infant pig-tailed macaques (*Macaca nemestrina*). IX International Conference on AIDS, June 7-11, 1993.
- Novak, M.F.S.X., J.C. Ha, and G.P. Sackett. 1993. Heritability and captive breeding effects on physical and psychological traits of infant pigtailed macaques. Annual meeting of the Animal Behavior Society, July 25-29, 1993.
- Kimpo, C.L. and J.C. Ha. 1993. The effects of nursery-rearing on the social behavior of immature captive baboons. Annual meeting of the Animal Behavior Society, July 25-29, 1993.
- Heath, S., J. Lockard, J. Ha, and R. Farrow. 1993. Puzzle solving abilities in captive long-tailed macaques: pregnancy and drug treatment effects. Annual meeting of the American Society of Primatologists, August 18-22, 1993.
- Novak, M.F.S.X., J.C. Ha, G.C. Ruppenthal, G.P. Sackett. 1994. Rearing infant monkeys in pairs: rotating partners. Annual meeting of the Animal Behavior Society, July 23-28, 1994.
- Heath, S. and J.C. Ha. 1994. Behavioral measurement of temperament in nursery-raised infant macaques and baboons. Annual meeting of the Animal Behavior Society, July 23-28, 1994.
- Lange, S.K., C. Kimpo, J. Kimpo, K. Morris, and J.C. Ha. 1994. Habitat selection and home range of mountain beaver (*Aplodontia rufa*). Annual meeting of the Animal Behavior Society, July 23-28, 1994.
- Robinette, R., J.C. Ha, and G.P. Sackett. 1994. Social contact with pregnant females affects pregnancy outcome in captive pigtail macaque monkeys. Annual meeting of the Animal Behavior Society, July 23-28, 1994.
- Sackett, G.P. and J.C. Ha. 1994. Life span ponderal growth in captive *M. nemestrina*. XVth Congress of the International Primatological Society, August 3-8 1994.
- Morris, K., C. Kimpo, G. Morris, and J.C. Ha. 1995. The influence of proximity to humans on population density and home range size of mountain beaver (*Aplodontia rufa*). Annual meeting of the Society for Northwestern Vertebrate Biology, March 1995.
- Ha, J.C. and S.J. Ha. 1995. Significant differences in call structure among Pacific Northwest crow populations. Annual meeting of the Animal Behavior Society, July 8-13, 1995.

- Robinette, R. and J.C. Ha. 1995. Beach foraging behavior of American crows as a function of tide height. Annual meeting of the Animal Behavior Society, July 8-13, 1995.
- Kimpo, C., J.C. Ha and G. Sackett. 1995. Object concept in pigtailed macaques. Annual meeting of the Animal Behavior Society, July 8-13, 1995.
- Robinette, R. and J.C. Ha. 1996. The relationship between tide height, prey density, foraging efficiency in beach-foraging American crows. Annual meeting of the Animal Behavior Society, August 3-9, 1996.
- Sackett, G.P. and J.C. Ha. 1996. Multiple spell survival analysis as a method for studying low rate behaviors over sessions. Int'l Conference on Measuring Behavior, Netherlands, October 14-18, 1996.
- Kroeker, R., J.C. Ha, and G.P. Sackett. 1997. Analysis of neurobehavioral assessments in pig-tailed macaques using survival methods. Society for Research in Child Development, Washington D.C., April 1997.
- Ha, J.C. and R.L. Robinette. 1997. Beach foraging crows I: Ecological and behavioral determinants of patch departure. Annual meeting of the Animal Behavior Society, June 21-26, 1997.
- Robinette, R.L. and J.C. Ha. 1997. Beach foraging crows II: Social foraging. Annual meeting of the Animal Behavior Society, June 21-26, 1997.
- Robinette, R.L. and J.C. Ha. 1998. Evidence for multiple factors influencing vigilance. Annual meeting of the Animal Behavior Society, July 18-22, 1998.
- Robinette, R.L. and J.C. Ha. 1998. Successful scrounging by beach-foraging Northwestern Crows (*Corvus caurinus*). Foraging/98: Nervous Systems to Ecosystems, July 21-24, 1998.
- Ha, J.C. and R. Jacobs. 1999. Visitor effects on the behavior of two captive jaguars. Annual meeting of the Animal Behavior Society, June 26-30, 1999.
- Nicholson, T.M., J.S. Lockard, J.C. Ha, C.G. Walker-Gelatt, and M.F.S.X. Novak. 1999. Initiation and reciprocation as a function of group composition in laboratory-reared infant *Macaca nemestrina*. Annual meeting of the American Society of Primatologists, August 12-16, 1999.
- Ha, J.C., R. Robinette Ha, and B. Dyke. 2002. Heritability of physical, cognitive, and social development in infant pigtailed macaque monkeys. Annual meeting of the Animal Behavior Society, July 13-17, 2002.
- Marsh, J.A. and J.C. Ha. 2003. Historical analysis of association patterns in southern resident killer whales (*Orcinus orca*). Annual meeting of the Animal Behavior Society, July 19-23, 2003.
- Skypeck, V.K., L. Newell-Morris, and J.C. Ha. 2003. Epidemiology of high birth weight in the pigtailed macaque (*Macaca nemestrina*). Annual meeting of the American Society of Primatologists, July 31-Aug 3, 2003.
- Bentson, K.L., C.M. Crockett, and J.C. Ha. 2003. A rapid home cage procedure for assessing individual and group differences in behavioral reactivity of monkeys. Annual meeting of the American Society of Primatologists, July 31-Aug 3, 2003.
- Bentson, K.L., C.M. Crockett, H.B. Montgomery, and J.C. Ha. 2004. Cage level has little effect on behavior of macaques (*M. fascicularis*, *M. nemestrina*, and *M. mulatta*). Annual meeting of the American Society of Primatologists, June 8-12, 2004.
- Alloway, H. and J.C. Ha. 2005. Aggression in pigtail macaque (*Macaca nemestrina*) breeding groups and its effects on pregnancy outcome. Annual meeting of the Animal Behavior Society, August 6-10, 2005.
- Colon, M., J.C. Ha, and R.R. Ha. 2006. Relationships of forest birds on Rota, Mariana Islands. North American Ornithological Conference, Veracruz Mexico, October 30, 2006.
- Ha, R.R., J. Ha, L. Berry, and J. Morton. 2007. Nest site selection in the endangered Mariana crow. Annual meeting of the Animal Behavior Society, July 21-25, 2007.
- Ha, J.C., A. Butler, and R.R. Ha. 2008. Demographic Modeling of the Rota Aga Population: Interim Results. Hawaii Conservation Conference, Honolulu, July 29-31, 2008.
- Berry, L., J. Morton, S. Plentovich, T. Aguon, A. Amar, J. Ha, and R. Ha. 2008. Population trends, breeding biology and nesting success of the endangered Mariana Crow or Aga on Rota, Mariana Islands. Hawaii Conservation Conference, Honolulu, July 29-31, 2008.

- Ha, R.R., Ha, J.C., Berry, L., and Morton, J. 2008. Nest-site selection in the endangered Mariana crow. Hawaii Conservation Conference, Honolulu, July 29-31, 2008.
- Becker, D., H. Mounce, A. Butler, and J. Ha. 2010. Messages from population models: implications for recovery of endangered Maui parrotbill. Hawaii Conservation Conference, Honolulu, July 2010.
- Ha, R.R., Faegre, S., and Ha, J.C. 2010. Rules of dispersal in the endangered Mariana crow (*Corvus kubaryi*) and potential effects on population size. International Society for Applied Ethology, Pullman WA, May 27-28, 2010.
- Ha, J.C. 2010. Temperament: a review of concepts and conclusions. Interdisciplinary Forum on Applied Animal Behavior, Williamsburg, VA, July 23-25, 2010.
- Ha, R.R., Faegre, S., and Ha, J.C. 2010. Rules of dispersal in the endangered Mariana crow (*Corvus kubaryi*). Animal Behavior Society, Williamsburg, VA, July 26-29, 2010.
- Nilsen, A-L. and J. Ha. 2010. Bichon Frise dogs have linear hierarchies in both pair-wise and social settings. Animal Behavior Society, Williamsburg, VA, July 26-29, 2010.
- Mates, A. and J. Ha. 2010. Advances in bioacoustic analysis: interpreting calls of the American crow. Animal Behavior Society, Williamsburg, VA, July 26-29, 2010.
- Andrews, N., E. Fernandez, and J. Ha. 2010. Meta-analysis: enrichment dos and don'ts. Animal Behavior Society, Williamsburg, VA, July 26-29, 2010.
- Mates, E., R. Tarter, J. Ha, A. Clark and K. McGowan. 2011. Acoustic profiling of wild American crows. Animal Behavior Society, Bloomington, IN, July 25-30, 2011.
- Faegre, S., R. Ha and J. Ha. 2011. Drastic population decline and ranging behavior of the critically endangered Mariana Crow (*Corvus kubaryi*). Animal Behavior Society, Bloomington, IN, July 25-30, 2011.
- Sussman, A. and J. Ha. 2011. Group characteristics affect aggression levels and pregnancy outcomes in pigtailed macaque. Animal Behavior Society, Bloomington, IN, July 25-30, 2011.
- Andrews, N., E. Fernandez, and J. Ha. 2011. An Enrichment Meta-Analysis: Reassessing Our Past to Plan for the Future. International Conference on Environmental Enrichment, Portland, OR, October 14-19, 2011.
- Hotchkiss, C.E., R. Hukkanen, R. Murnane, D. Fong, D. Stockinger, J. Worlein, J. Ha, K. Vogel, B. Agricola, S. Hu. 2011. Pathogenesis of pulmonary arteriopathy in lentivirus-infected pigtailed macaques (*M. nemestrina*). 29th Annual Symposium on Nonhuman Primate Models for AIDS, Seattle, Washington, October 25-28, 2011.
- Ha, J.C. 2012. Discussant and moderator, Symposium: Temporary Enrichment for Permanent Change: Using Research to Guide Zoo Exhibits, 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.
- Yoakum, E.R., E.J. Fernandez, J.C. Ha., and R. Ha. 2012. A Behavioral and Spatial Comparison of Four Gray Wolves (*Canis Lupus*). 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.
- Ma, N.A., E.J. Fernandez, J.C. Ha and R. Ha. 2012. Northern Treeshrew (*Tupaia belangeri*): Activity and Exhibit and Use at the Woodland Park Zoo. 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.
- Redshaw, A., E.J. Fernandez, and J.C. Ha. 2012. Golden Lion Tamarins (*Leontopithecus rosalia*) and Foraging Enrichment. 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.
- Andrews, N., E.J. Fernandez and J.C. Ha. 2012. Grizzly Bear Daily And Seasonal Activity. 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.
- Fernandez, E.J. and J.C. Ha. 2012 The Effects of Visibility and Activity on Crowd Size Throughout a Zoo. 38th Annual Convention of Association for Behavior Analysis International. Seattle, Washington, USA. May 25-29, 2012.
- E.A. Mates, R.R.Tarter, J.C. Ha, A.B. Clark and K.J. McGowan. 2013. Acoustic profiling of the American crow: caws are informative of sex, identity and behavioral state. Animal Behavior Society, Boulder, CO, July 28-Aug 1, 2013.

- Sussman, A. and J. Ha. 2013. Personality predicts group aggression and network structure in pigtailed macaques. Animal Behavior Society, Boulder, CO, July 28-Aug 1, 2013.
- Fritscher, S. and J. Ha. 2013. The Effect of Declawing on Feline Behavior in an Animal Shelter. Animal Behavior Society, Boulder, CO, July 28-Aug 1, 2013.
- Nilsen, A. and J. Ha. 2013. Hamilton Search and Set Breaking Task: Assessing Canine Cognition. Animal Behavior Society, Boulder, CO, July 28-Aug 1, 2013.
- Robinson, LM, Skiver Thomas, B, & Ha, JC. 2013. From puppy to companion: Puppy temperament assessments predict puppy breed, AKC group, and do not predict adult temperament. International Conference on Individual Differences: 20th KNDV Zoology Conference. November 2013, Groningen, The Netherlands.

Scientific Presentations: Departmental Seminars, Invited Lectures, and Short Courses

- Why Mice Climb Trees, or Niche separation of *Peromyscus leucopus* and *Blarina brevicauda*. Departmental seminar, Biology Dept., Millersville University. November 1979.
- Home Range and Food Supply in the Southeastern Fox Squirrel. Departmental seminar, Biology Dept., Wake Forest University. Spring 1983.
- Searching Biological Literature by Computer: A Workshop. Departmental seminar, Zoology Dept., Colorado State University. December 1986.
- How to Search 19 Years of Literature in 10 Minutes. Departmental seminar, Fisheries and Wildlife Biology Dept., Colorado State University. March 1988.
- Measurement of Physiological Stress in Free-Ranging Animals. Workshop on Aircraft/Wildlife Interactions. U.S. Fish and Wildlife Service and U.S. Air Force, Estes Park, CO 12 April 1988.
- The Effects of Foraging Time and Metabolic Requirements on Foraging Behavior and Metabolic Rate of Captive Gray Jays (*Perisoreus canadensis*). Departmental seminar, Biology Dept., Colorado State University. April 1989.
- Gray Jays: Field Biology and Animal Behavior. Public lecture: Colorado Department of Parks and Recreation, Colorado State Forest. 14 July 1990.
- Guest lecturer, Animal Behavior Course. Biology Dept., Colorado State University. 1987, 1988, 1989.
- Guest lecturer, Ethological Methods Course. Biology Dept., Colorado State University. 1988, 1990.
- Thermoregulation and Behavior of Gray Jays: Past, Present, and Future Studies. Guest lecture, Comparative Physiology Course. Biology Dept., Colorado State University. September 1989.
- Guest lecturer, Vertebrate Biology Course. Biology Dept., Colorado State University. February 1990.
- Guest lecturer, Psychology as a Natural Science Course. Psychology Dept., University of Washington. 1992, 1993.
- Guest lecturer, Developmental Psychology Seminar. Psychology Dept., University of Washington. 1991, 1992, 1993, 1994, 1995, 1996, 1998, 2000.
- Guest lecturer, Methods of Data Analysis Workshop Series. Child Development and Mental Retardation Center, University of Washington. 1992.
- Guest lecturer, Statistical Methods in Longitudinal Research Course. Psychology Dept., University of Washington. 1993, 1994, 1995, 1997, 1999, 2000, 2002.
- Ecology of the Gray Jay in the Rockies. Invited Seminar, Biology Department, Millersville University, Fall 1993.
- Infant Primate Research Laboratory: Ethology and Psychology. Invited Seminar, Biology Department, Millersville University, Fall 1993.
- Invited workshop participant: Methods in Genetic Epidemiological Analysis, Southwest Foundation for Biomedical Research, San Antonio TX, October 1995.
- Guest lecturer, Comparative Animal Behavior. Psychology Department, University of Washington. Summer 1996.
- Social Housing and Pregnancy Outcome in Captive Pigtailed Macaques. Invited seminar, UW Regional Primate Research Center, August 1998.
- Social Housing and Pregnancy Outcome in Captive Pigtailed Macaques. Invited seminar, UW Psychology Department, August 1998.

Recent Research on the Northwestern(?) Crow: Foraging, Acoustics, and DNA. Meeting of the Washington Ornithological Society, March 1999.

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Laboratory of Ornithology, Cornell University, Ithaca NY, 30 October 2000.

Invited Workshop Participant: Colony Records Analysis. Southwest Regional Primate Research Center and National Institutes of Health (NCR), Jan 12, 2001.

Invited Workshop Participant: Colony Records Analysis II. Jackson Laboratories and National Institutes of Health (NCR), Jun, 2001

Heritability of Cognitive and Reflex Development in Infant Pigtailed Macaques: Preliminary Results and Future Directions. Invited seminar, Oregon National Primate Research Center, Beaverton OR, 24 September 2001.

Invited Workshop Participant: Ethoinformatics. Indiana University's Center for the Integrative Study of Animal Behavior and National Science Foundation, April, 2002.

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Department of Biology, Boise State University, Boise ID, 19 October 2002.

Chair of Workshop: Colony Records Analysis III. NIH-National Center for Research Resources, San Antonio, TX November 2002.

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Behavioral Ecology Institute, National University of Mexico, Mexico City Mexico, 14 December 2002.

Invited Workshop Participant: Ethoinformatics II. Cornell University's Laboratory of Ornithology and National Science Foundation, Feb 2003.

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited course lecture, Animal Behavior course, North Seattle Community College, Seattle WA, 13 Mar 2003.

Invited Workshop Participant: National Marine Fisheries Service Review of Research Needs for Southern Resident Killer Whales: I, Whale-watching and II, Food Supply. Northwest Fisheries Research Center, May 2003.

Invited Workshop Participant: National Marine Fisheries Service Review of Research Needs for Southern Resident Killer Whales 2004. Northwest Fisheries Research Center, Jan 2004.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, Psychology Department, New College of the University of South Florida, 17 Mar 2004.

Organizer and Chair of National Marine Fisheries Service workshop on Behavior Coding of Killer Whales, 20 April 2004.

Colony Records Analyses of the WaNPRC Pigtailed Macaque Colony, Invited lecture, Oregon National Primate Research Center, 5 May 2004.

The Sensory Systems of Sharks. Invited course lecture, Animal Behavior course, North Seattle Community College, Seattle WA, 9 Jun 2004.

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Biology Department, Millersville University of Pennsylvania, 21 Sep 2004.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, Biology Department, Millersville University of Pennsylvania, 22 Sep 2004.

Co-Chair of Workshop: Colony Records Data-sharing Initiative. NIH-National Center for Research Resources, San Antonio, TX 1-4 November 2004.

Cat Behavior and Misbehavior, Invited talk, Seattle-King County Humane Society, 16 Nov 2004.

A Quick Introduction to the U.W. Infant Primate Research Laboratory, Invited lecture, Oregon National Primate Research Center, Animal Model of Gestational Diabetes Workshop, 6 December 2004.

The Sensory Systems of Sharks. Invited course lecture, Animal Behavior course, North Seattle Community College, Seattle WA, 11 Feb 2005.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, St. Andrews University, Scotland. 1 September, 2005.

Basic and Applied Behavior: Social Foraging and Conservation of Crows, Invited seminar, St. Andrews University, Scotland. 1 September, 2005.

Cat Behavior and Misbehavior, Invited talk, Seattle-King County Humane Society, 8 Nov 2005.

Behavior and Ecology of Forest Crows in Washington and Micronesia, Invited talk, Northwest Exotic Bird Society, 19 January 2006.

Cat Behavior and Misbehavior, Invited talk, Seattle-King County Humane Society, Nov 2006.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, Lincoln Park Zoo, Chicago, March 2007

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Department of Biological Sciences, Purdue University, West Lafayette, IN, March 2007.

Short Course. An Introduction to Basic Statistics. University of Brasilia, Brasilia, Brazil. April 14-19, 2008.

Short Course. An Introduction to Basic Statistics. Sao Paulo State University, Sao Jose do Rio Preto, Brazil. April 22-25, 2008.

Biologists In Need Of Mathematicians: A Few Examples of Mathematics in Animal Behavior, Invited seminar, Department of Computing and Statistics, Sao Paulo State University, Sao Jose do Rio Preto, Brazil. April 28, 2008.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, Department of Biological Sciences, Sao Paulo State University, Sao Jose do Rio Preto, Brazil. April 28, 2008.

Social Behavior of Resident Inshore Killer Whales in the Pacific Northwest: Natural and Human Influences, Invited seminar, Haller Lake Community Center. May 1, 2008.

Serendipity in Animal Research Careers, Invited seminar, Centralia College. May 21, 2008.

Animal Behavior and Conservation: Effects of Humankind on Animals, Invited seminar, Centralia College. May 13, 2009.

The (Mis)Behavior of Dogs: An Introduction to Applied Animal Behavior, Invited seminar, Westmont College, Santa Barbara, CA. November 2009.

Social Housing and Pregnancy Outcome in Captive Pigtailed Macaques, Invited seminar, Washington National Primate Research Center, Seattle WA. November 2009.

Short Course. The Mis-Behavior of Dogs and Cats: An Introduction to Applied Animal Behavior. Universidade Federal de Alfenas, Alfenas, Brazil. November 12, 2010.

Social Housing and Pregnancy Outcome in Captive Pigtailed Macaques. Invited seminar, UW Psychology Department, November 2012.

The Social Behavior of Highly Cognitive Animals: Examples from Crows, Monkeys, and Orca Whales. Invited seminar, Department of Anthropology, University of Washington, Seattle WA, November 2012.

Numerous public lectures on Applied Animal Behavior, Dog and Cat Behavior

### Honors and Awards

1980 Awarded undergraduate departmental honors. Thesis title: "Application of radiotelemetry to the study of the southern flying squirrel (*Glaucomys volans*).

1980 A.G. Breidenstine Award for excellence in undergraduate research, Millersville U.

1980-1982 Graduate academic scholarship: Wake Forest University.

1987 Teaching Fellowship Award for Excellence in Undergraduate Teaching: Colorado State University.

1997 Alpha Phi Sorority Faculty of the Year Award: University of Washington.

1998 Founders' Memorial Poster Award for "Evidence For Multiple Factors Influencing Vigilance." With R.L. Robinette, annual meeting of the Animal Behavior Society, July 18-22, 1998.

2008 Fellowship as Visiting Scientist, Brazilian Research Council.

## Societies

Animal Behavior Society  
American Society of Primatologists  
Association of Field Ornithologists  
Sigma Xi (National Research Honor Society)

## Service to Department

1982-83 Graduate student representative to faculty: Biology Dept., Wake Forest U.  
1984-86 Member (1984), Chairman (1985): Colloquium in Life Sciences Committee, Zoology Department, Colorado State University.  
1986-Spring 1989 Graduate student liaison to C.S.U. Morgan Libraries: Zoology/Biology Department, Colorado State University.  
1987-1990 Implemented and maintained departmental account for computer bibliographical database access (BRS AfterDark, primarily Biological Abstracts), including presenting training seminars and workshops for faculty and students.  
1989-1990 Computer and Statistics Consultant, Biology Department, Colorado State University. Resource person for microcomputer users in department. Statistics resource person for graduate students in Biology, Fisheries and Wildlife, and Psychology Departments.  
1991-present Serve on various National Primate Research Center committees: Colony Modeling Committee, Animal Records System Committee, Breeding Colony Advisory Group, and IPRL New Computing Resources Committee. Currently serve on Animal Record System Advisory Committee.  
1998-1999 Served on annual review and renewal committee for Laura Little, Lecturer, Psychology Department  
2000-2003 Appointed as Animal Behavior Area Representative, Graduate Training Committee, Psychology Department.  
2000-2005 Elected Faculty Senator from Psychology Department  
2006 Served on Distinguished Graduate Student Teaching Award selection committee.  
2007 Served on Distinguished Graduate Student Teaching Award selection committee.

## Service to Profession

1988-1996 Developed, maintained ABSnet, a professional electronic mail network.

- 1989-present Ad-hoc reviewer for Animal Behaviour

1990-1996 Appointed to Public Affairs Committee, Animal Behavior Society.

- 1991-present Ad-hoc reviewer for American Journal of Primatology

1991-1994 Appointed to Education Committee, American Society of Primatologists.  
1992-1994 Local Host for 1994 Animal Behavior Society meeting at the University of Washington.  
1995 Appointed to chair ad-hoc Conservation Committee, Animal Behavior Society.  
1996-1997 Statistics advisor to Editorial Board of Animal Behaviour.  
1996-1998 Appointed as first chair of Conservation Committee, Animal Behavior Society  
1996-2009 Appointed as Internet/Web Site (ABSnet) Manager, Animal Behavior Society  
1998-2001 Elected Member-at-Large, Executive Committee, Animal Behavior Society  
1999 Ad-hoc reviewer (twice) for Natural Sciences and Engineering Research Council of Canada research proposals  
2000 Ad-hoc reviewer for National Science Foundation  
2000 Participant in Animal Behavior Society's Year 2000 Summit on the Future of Behavior  
2001-2003 Elected first Senior Program Officer, Executive Committee, Animal Behavior Society  
2002 Member, National Science Foundation/Animal Behavior Program Doctoral Dissertation Improvement Grant Review Panel  
2002-2005 Co-Chair National Institutes of Health/National Center for Research Resources Colony Records Analysis Working Group  
2002-2005 Local Host for 2005 Animal Behavior Society meeting: Snowbird Ski Resort, Utah.  
2003 Member of four-person Animal Behavior Society Central Office site visit team

2004-2007 Appointed Director of Animal Behavior Society's Central Office  
2005-2008 Appointed Editor, Animal Behaviour  
2006-2009 Elected Treasurer, Animal Behavior Society  
• 2008-2014 Appointed US delegate to International Council of Ethologists  
2012 Served on NSF-IOS Animal Behavior Advisory Panel, both Spring and Fall.  
2012-2014 Appointed member, Issues in Applied Animal Behavior Committee, Animal Behavior Society  
2013 Nominated as President, Animal Behavior Society (withdrew)

Also occasional reviewer for International Journal of Primatology; Zoo Biology; Institute for Laboratory Animal Research; Behavioral Research Methods, Instruments, and Computers; Journal of Comparative Psychology; Zoo Biology, Behavioural Processes; Applied Animal Behavior Science; Journal of Applied Animal Welfare Science, Animal Cognition.

#### Other Professionally-related Activities

Author of EVENT-PC software for recording behavioral data by computer. Also authored SEQ-PC for sequential analysis of behavioral data. Author of several custom software packages for researchers in North and South America. In 2003, I developed a Palm PDA-based program for collecting behavioral data, now in use in 5 labs at the University of Washington, as well as 2 labs at Indiana University and over 20 other installations on six continents. This software has now been converted to smartphone and tablet applications.

Founder and partner in Companion Animal Solutions LLC, a private clinical practice in applied animal behavior and the treatment of companion animal behavior problems. 2007-2012.

Prior to 2007 and following 2012, operated Animal Behavior Associates of Washington. 1999-2007, 2013-present.

Co-Founder of Companion Animal Behavior Connection, a local organization of accredited professional pet behavior specialists with the goal of providing educational resources and professional access to both local veterinarians and the public.

#### Collaborators

Publications with U Washington collaborators: Kimpo, C; Sackett, GP; Robinette, RL; Unis, AS; Roberson, MD; Dorsa, DM; Nosbisch, C; Abkowitz, JL; Conrad, SH; Mottet, NK; Ruppenthal, GC; Unadkat, JD; Heath-Lange, S; Davis, A; Novak, MFSX; Walker-Gelatt, CG; Bentzen, P; Kroeker, R; Jacobs, R; Nicholson, T; Lockard, JS; Stockinger, DE; Torrence, AE; Hukkanen, RR; Vogel, K; Hotchkiss, C; Fong, D.; Crockett, D.; Bentson, K.

Publications with Southwest Foundation for Biomedical Research collaborators: Nair, S; Rogers, J; Almasy, L; Dyke, B.

Graduate Advisors: Weigl, PD (Wake Forest U); Wunder, BA & Lehner, PN (Colorado State U)

Advisees: Kimpo, C; Robinette, RL; Hawks-Johnson, S; Marsh, JL; Skiver Thompson, R; Alloway, H; Colon, M.; Sussman, A.; Mates, A.; Faegre, S.; Loyer, C.; Fritscher, S.

Postdoctoral researchers: Berry, L.; Levenstein, K.; Fernandez, E.