

CURRICULUM VITAE

Robert Carl Fleischer

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Birthdate: 24 June 1955 **Birthplace:** Glendale, California.

Education:

Chatsworth High School, Chatsworth, California: Diploma 1973.

University of California at Santa Barbara. B.A. 1978, Biology.

University of Kansas. M.Phil. 1982; Ph.D. 1983, Systematics and Ecology.

Positions:

January 2006 to present: **Senior Scientist (2012) and Head, Center for Conservation and Evolutionary Genetics**, Smithsonian Conservation Biology Institute, National Zoological Park, Smithsonian Institution, Washington, DC.

May 2001 to December 2005: **Evolutionary Geneticist and Head, Genetics Program**, National Museum of Natural History, Smithsonian Institution, Washington, DC.

January 1991 to April 2001: **Evolutionary Geneticist and Head, Molecular Genetics Laboratory**, National Zoological Park, Smithsonian Institution, Washington, DC.

September 2000 to present: **Professor (adjunct)**, Department of Biology and BEES Program, University of Maryland, College Park, MD.

April 1994 to 2010: **Research Associate Professor (adjunct)**, Department of Biology, American University, Washington, DC.

January 2002 to 2007: **Professor (adjunct)**, Department of Cell and Molecular Biology, University of Hawaii, Manoa, HI.

September 1985 to present: **Research Associate**, Zoology Department, Bernice P. Bishop Museum, Honolulu, HI.

Summer session 1989: **Visiting Assistant Professor**, University of Minnesota, Itasca Biology Program (Field Ornithology), MN.

August 1987-December 1990: **Assistant Professor**, Department of Biology, University of North Dakota, Grand Forks, ND.

February 1985-August 1987: **Assistant Researcher**, Hawaiian Evolutionary Biology Program, University of Hawaii, Manoa, HI.

March 1983-February 1985: **Postdoctoral Research Associate**; fall quarters, 1983 & 1984, **Lecturer**; University of California at Santa Barbara.

1978-1983: **Research, Teaching, or Curatorial Assistant**, University of Kansas, Lawrence, KS.

Honors and Awards:

Fellow, American Ornithologists' Union, 2000

Fellow, American Association for the Advancement of Science, 2003

Plenary Speaker, American Ornithologists' Union, 2008

Brewster Medal, American Ornithologists' Union, 2012

Publications:

1. Johnston, R. F. and R. C. Fleischer. 1981. Overwinter mortality and sexual size dimorphism in house sparrows. *Auk* 98:503-511.
2. Fleischer, R. C. and R. F. Johnston. 1982. Natural selection on body size and proportions in

- house sparrows. **Nature** 298:747-749.
3. Fleischer, R. C. 1982. Clutch size in Costa Rican house sparrows. **Journal of Field Ornithology** 53:280-281.
 4. Fleischer, R. C. 1983. Relationships between tidal oscillations and ruddy turnstone flocking, foraging and vigilance behavior. **Condor** 85:22-29.
 5. Fleischer, R. C. 1983. A comparison of theoretical and electrophoretic assessments of genetic structure in populations of the house sparrow (*Passer domesticus*). **Evolution** 37:1001-1009.
 6. Fleischer, R. C., R. F. Johnston, and W. B. Klitz. 1983. Allozymic heterozygosity and morphological variance in house sparrows. **Nature** 304:628-630.
 7. Fleischer, R. C. and R. F. Johnston. 1984. The relationships between winter climate and selection on body size of house sparrows. **Canadian Journal of Zoology** 62:405-410.
 8. Fleischer, R. C., P. E. Lowther and R. F. Johnston. 1984. Natal dispersal in house sparrows: some causes and possible consequences. **Journal of Field Ornithology** 55:444-456.
 9. Fleischer, R. C., W. I. Boarman, and M. L. Cody. 1985. Asynchrony of song series in the bewick's wren and wren tit. **Animal Behavior** 33:674-676.
 10. Fleischer, R. C., M. T. Murphy, and L. E. Hunt. 1985. Clutch size increase and intraspecific brood parasitism in the yellow-billed cuckoo. **Wilson Bulletin** 97:125-127.
 11. Fleischer, R. C. 1985. A new technique to identify and assess the dispersion of eggs of individual brood parasites. **Behavioral Ecology and Sociobiology** 17:91-99.
 12. Rothstein, S. I., D. A. Yokel, and R. C. Fleischer. 1986. Social dominance, mating and spacing systems, female fecundity, and vocal dialects in captive and free-ranging brown-headed cowbirds. **Current Ornithology** 3:127-185.
 13. Fleischer, R. C. 1986. Brood parasitism by brown-headed cowbirds in a simple host community in eastern Kansas. **Kansas Ornithological Society Bulletin** 37:21-29.
 14. Keys, G. C., R. C. Fleischer, and S. I. Rothstein. 1986. Relationships between elevation, reproduction and the hematocrit level of brown-headed cowbirds. **Comparative Biochemistry and Physiology** 83A:765-769.
 15. Murphy, M. T. and R. C. Fleischer. 1986. Patterns of reproduction in brown thrashers and other mimids, and the importance of nest predation. **Condor** 88:446-455.
 16. Rothstein, S. I. and R. C. Fleischer. 1987. Vocal dialects and their possible relation to honest status signalling in the brown-headed cowbird. **Condor** 89:1-23.
 17. Rothstein, S. I. and R. C. Fleischer. 1987. Brown-headed cowbirds learn flight whistles after the juvenile period. **Auk** 104:512-516.
 18. Freed, L. A., S. C. Conant, and R. C. Fleischer. 1987. Evolutionary ecology and radiation of Hawaiian forest birds. **Trends in Ecology and Evolution** 2:196-203.
 19. Fleischer, R. C., A. P. Smyth, and S. I. Rothstein. 1987. Temporal and age-related variation in the laying rate and reproductive output of female brown-headed cowbirds. **Canadian Journal of Zoology** 65:2724-2730.
 20. Rothstein, S. I., D. A. Yokel, and R. C. Fleischer. 1988. The agonistic and sexual functions of vocalizations of male brown-headed cowbirds (*Molothrus ater*). **Animal Behavior** 36:73-86.
 21. Fleischer, R. C. and S. I. Rothstein. 1988. Known secondary contact and rapid gene flow among subspecies and dialects in the brown-headed cowbird. **Evolution** 42:1146-1158.
 22. Fleischer, R. C. and R. N. Williams. 1988. Human and bird interactions at feeding sites in Waikiki, Hawaii. **'Elepaio** 48:61-64.
 23. Williams, R. N. and R. C. Fleischer. 1989. Distributions and habitat associations of birds in Waikiki, Hawaii. **Pacific Science** 43:152-160.
 24. Fleischer, R. C., S. I. Rothstein and L. Miller. 1991. Mitochondrial-DNA variation indicates gene flow between subspecies of the brown-headed cowbird. **Condor** 93:185-189.
 25. Fleischer, R. C., S. C. Conant and M. Morin. 1991. Population bottlenecks and genetic variation in native and introduced populations of the Laysan Finch (*Telespiza cantans*). **Heredity** 66:125-130.

26. Fleischer, R. C., R. N. Williams, and A. J. Baker. 1991. Genetic variation within and among Hawaiian populations of the common myna (*Acridotheres tristis*). **Journal of Heredity** 82:205-208.
27. Fleischer, R. C. and M. T. Murphy. 1992. Relationships among allozyme heterozygosity, morphology, and lipid levels in house sparrows during winter. **Journal of Zoology** 226:409-419.
28. Fleischer, R. C. and N. G. Smith. 1992. Giant cowbird eggs in the nests of two icterid hosts: The use of morphology and electrophoretic variants to identify individuals and species. **Condor** 94:572-578.
29. Oring, L., R. C. Fleischer, M. Reed, and K. Marsden. 1992. Cuckoldry via stored sperm in the polyandrous spotted sandpiper. **Nature** 359:631-633.
30. Auerbach, M. and R. Fleischer. 1992. Host race formation in a leaf-mining moth. **Proc. 8th Intl. Symposium Insect-Plant Relationships**. 201-202. Dordrecht: Kluwer Acad. Publ.
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32. Oring, L. W., J. M. Reed, J. A. R. Alberico, and R. C. Fleischer. 1993. Female control of paternity: more than meets the eye. **Trends in Ecology and Evolution** 8:259.
33. Tarr, C. L. and R. C. Fleischer. 1993. Mitochondrial DNA variation and evolutionary relationships in the `Amakihi complex. **Auk** 110:825-831.
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35. Fleischer, R. C., C. L. Tarr, and T. K. Pratt. 1994. Genetic structure in the palila, an endangered Hawaiian honeycreeper, as assessed by DNA fingerprinting. **Molecular Ecology** 3:383-392.
36. Cooper, A., R. Fleischer, H. James and N. Tuross. 1994. Studies of the effects of bone consolidants on endogenous DNA. **Ancient DNA Newsletter** 2:15-16.
37. Rave, E. H., R. C. Fleischer, F. Duvall, and J. M. Black. 1994. Genetic analyses through DNA fingerprinting of captive populations of nene. **Conservation Biology** 8:744-751.
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40. Fleischer, R. C. and C. L. Tarr. 1995. Plain wren destroys egg of dusky antbird. **Journal of Field Ornithology** 66:404-405.
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- Captivity*. University of Chicago Press, Chicago, IL.
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 55. Delehanty, D. J., R. C. Fleischer, M. A. Colwell, and L. W. Oring. 1998. Female benefits and the absence of extra-pair fertilization in Wilson's phalaropes. **Animal Behavior** 55:995-1002.
 56. Fleischer, R. C. 1998. Genetics and avian conservation. Pp. 29-47 in (J. Marzluff and R. Sallabanks, eds.) **Avian Conservation: Research and Management**. Island Press, Washington, DC.
 57. Perry, E. A., D. J. Boness, and R. C. Fleischer. 1998. DNA fingerprinting evidence of nonfilial nursing in grey seals. **Molecular Ecology** 7:81-85.
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 63. Wooninck, L., J. E. Strassmann, R. C. Fleischer and R. R. Warner. 1998. Characterization of microsatellite loci in a pelagic spawner: the bluehead wrasse, *Thalassoma bifasciatum*. **Molecular Ecology** 7:1613-1614.
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- density covary with extra-pair fertilizations in Hooded Warblers? **Journal of Avian Biology** 29:145-154.
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 69. Tarr, C. L., and R. C. Fleischer. 1999. A molecular assessment of genetic variability and population differentiation in the endangered Mariana crow (*Corvus kubaryi*). **Molecular Ecology** 8:941-949.
 70. Sorenson, M. D., A. Cooper, E. E. Paxinos, T. W. Quinn, H. F. James, S. L. Olson and R. C. Fleischer. 1999. Relationships of the extinct moa-nalos, flightless Hawaiian waterfowl, based on ancient DNA. **Proceedings of the Royal Society, Series B**, 266:2187-2194.
 71. Hamilton, M. B. and R. C. Fleischer. 1999. Cloned microsatellite repeats differ between 4-base restriction endonucleases. **Journal of Heredity** 90:561-563.
 72. Hamilton, M. B., E. L. Pincus, A. Di Fiore and R. C. Fleischer. 1999. Universal linker and ligation procedures for construction of genomic DNA libraries enriched for microsatellites. **Biotechniques** 27:500-507.
 73. Slikas, B., I. B. Jones, S. R. Derrickson and R. C. Fleischer. 2000. Phylogenetic relationships of insular Micronesian white-eyes (Aves: Passeriformes: Zosteropidae), based on mitochondrial sequence data. **Auk** 117:355-365.
 74. Goldsworthy, S., J. Francis, D. Boness and R. Fleischer. 2000. Variation in the mitochondrial control region in the Juan Fernandez fur seal (*Actocephalus philippii*). **Journal of Heredity** 91:371-377.
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 76. Fleischer, R. C., S. Olson, H. F. James and A. C. Cooper. 2000. The identity of the extinct Hawaiian eagle (*Haliaeetus*) as determined by mitochondrial DNA sequence. **Auk** 117:1051-1056.
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 78. Omland, K. E., C. L. Tarr, W. I. Boarman, J. M. Marzluff and R. C. Fleischer. 2000. Cryptic genetic variation and paraphyly in ravens. **Proceedings of the Royal Society of London, Series B** 267:2475-2482.
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 80. Fonseca, D. M., D. A. LaPointe and R. C. Fleischer. 2000. Bottlenecks and multiple introductions: population genetics of the vector of avian malaria in Hawaii. **Molecular Ecology** 9:1803-1814.
 81. Fleischer, R. C., C. L. Tarr, H. F. James, B. Slikas and C. E. McIntosh. 2001. Phylogenetic placement of the po`o-uli *Melamprosops phaeosoma* based on mitochondrial DNA sequence and osteological characters. **Studies in Avian Biology** 22:98-103.
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214. Knowlton, J. L., D. J. Flaspohler, N. C. Rotzel McInerney, and R. C. Fleischer. 2014. First record of hybridization in the Hawaiian honeycreepers: `i`iwi (*Vestiaria coccinea*) x `apapane (*Himatione sanguinea*). **Wilson Journal of Ornithology** 126:562-568.
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220. Hailer, F., H. F. James, S. L. Olson, and R. C. Fleischer. 2014. Distinct and extinct: genetic differentiation of the Hawaiian eagle. **Molecular Phylogenetics and Evolution** 83:40-43 (doi:10.1016/j.ympev.2014.11.005).
221. Talley, B. L., C. R. Muletz, V. T. Vredenburg, R. C. Fleischer, and K. R. Lips. 2015. A century of *Batrachiochytrium dendrobatidis* in Illinois amphibians (1888-1989). **Biological Conservation** 182:254-261 (doi:10.1016/j.biocon.2014.12.007).
222. Young H. S., R. Dirzo, D. J. McCauley, B. Agwanda, L. Cattaneo, K. Dittmar, R. P. Eckerlin, R. C. Fleischer, L. E. Helgen, A. Hintz, J. Monteneri, S. Zhao, and K. M. Helgen. 2015. Drivers of intensity and prevalence of flea parasitism on small mammals in East African savanna ecosystems. **Journal of Parasitology** 101:xxx-xxx (<http://dx.doi.org/10.1645/14-684.1>).
223. Hofman, C., T. C. Rick, M. Hawkins, W. C. Funk, K. Ralls, C. Boser, P. W. Collins, T. Coonan, J. King, S. Morrison, S. D. Newsome, T. S. Sillett, R. Fleischer, and J. Maldonado. 2015. Mitochondrial genomes reveal rapid evolution of dwarf California Channel Islands foxes (*Urocyon littoralis*). **PLoS-ONE** (in press)

224. Pagenkopp Lohan, K. M., K. M. Hill, R. C. Fleischer, M. E. Torchin, E. E. Strong, and G. M. Ruiz. 2015. Molecular phylogenetics reveals first record and invasion of *Saccostrea* species in the Caribbean. **Marine Biology** (in press).
225. Danner, J. E., R. C. Fleischer, R. M. Danner, and I. T. Moore. In revision. Both culture and geography structure equatorial populations of rufous-collared sparrows (*Zonotrichia capensis*). **The Auk**.
226. Greenberg, R., A. G. Wilson, B. J. Olsen, B. Ballentine, N. Rotzel and R. C. Fleischer. In revision. Geographic population structure and subspecific boundaries in a tidal marsh sparrow. **Conservation Genetics**.
227. Danner, J. E., D. M. Small, T. B. Ryder, B. Lohr, B. S. Masters, D. E. Gill, and R. C. Fleischer. In revision. Temporal patterns of extra-pair paternity in a recently established population of Grasshopper Sparrows (*Ammodramus savannarum*) in Maryland.
228. St Clair, J. J. H., Z. T. Burns, E. M. Bettaney, M. B. Morrissey, J. Burt, B. Otis, T. B. Ryder, R. C. Fleischer, R. James and C. Rutz. Submitted. Reality mining of social-network dynamics and information flow in tool-using crows. **Nature Communications**.
229. Pagenkopp Lohan, K. M., R. C. Fleischer, K. J. Carney, K. K. Holzer, and G. M. Ruiz. In revision. Amplicon-based pyrosequencing reveals the diversity of microbial eukaryotes in ships' ballast water: implications for biogeography and infectious diseases. **Microbial Ecology**.
230. Fleischer, R. C. Accepted. Is *Turnagra* a bowerbird? **Condor**.
231. Fleischer, R. C., C. E. McIntosh, H. F. James, and S. L. Olson. In revision. Phylogeny of the Hawaiian thrushes (*Myadestes*) based on mitochondrial DNA. **Journal of Avian Biology**.
232. Zwiers, P. B., G. Borgia and R. C. Fleischer. In revision. Coordinated conformation changes in the Passeriform SWS1 opsin gene and potential constraints on avian UV vision. **Molecular Biology and Evolution**.
233. Covas, R., J. S. Beadell, M. Melo and R. C. Fleischer. In revision. Do island species experience lower parasite pressure than mainland ones? Diversity, prevalence and host specificity of avian malaria in the Gulf of Guinea. **Conservation Genetics**
234. Zwiers, P. B., G. Borgia, and R. C. Fleischer. In revision. Detailed phylogenetic analyses reveal unexpected and complex patterns of mating system and display trait evolution in the bowerbirds. **American Naturalist**.
235. Sonsthagen, S. A., J. Lock, H. F. James and R. C. Fleischer. MS. Phylogenetic relationships and rates of molecular evolution in the extinct Hawaiian Mohoidae. **Proceedings of the Royal Society**.

Published Abstracts:

1. Johnston, R. F. and R. C. Fleischer. 1979. Morphological and genotypic correlates of overwinter survival in house sparrows. **American Zoologist** 19:988.
2. Fleischer, R. C. 1981. Host specificity and egg dispersion in the brood-parasitic brown-headed cowbird. **American Zoologist** 21:924.
3. Conant, S., R. C. Fleischer, M. P. Morin, and C. L. Tarr. 1992. When endangered species are aliens: some thoughts on the conservation of rare species. **Pacific Science** 46:401-402.
4. Fleischer, R., G. Fuller, F. Garcia, and D. Ledig. 1994. Genetic variation and subspecies relationships in endangered clapper rails in California. **Journal für Ornithologie**. 135:45.

Grants, Contracts and Awards: (sole PI unless otherwise noted):

Smithsonian Institute of Biodiversity Genomics / Global Genome Initiative Grant: Studying mechanisms of disease resistance to reduce the threat of chytridiomycosis to Panamanian golden frogs. (Co-PI with M. Becker, B. Gratwicke). \$19,990. 2015.

Smithsonian Pell Grant: Genomics of Resistance to Avian Malaria in Hawaiian Amakihi. (PI with

L. Sackett). \$99,500. 2015-2017.

Smithsonian Bond Fund: Revealing the mechanisms driving coexistence of resident and wintering migrant songbirds in Jamaica using high-throughput DNA sequencing of prey items in feces. (Co-PI with P. Marra, L. Powell). \$73,000. 2015-2016.

Smithsonian Grand Challenges – Biodiversity Grant: The Carnivore's dilemma: Understanding impacts of environmental change on Africa's large carnivores. (Co-PI with K. Helgen, J. Maldonado, C. France, M. Kinnaird, R. Kays, W. McShea, H. Young, S. Murray, P. Scott, S. Hart and D. Reeder). \$99,810. 2014-2015.

Morris Animal Foundation: Effects of Land-use on Tick-burden and Tick-borne Diseases in Wild Dogs (*Lycaon pictus*). (Co-PI with H. Young, R. Woodroffe). 2014-2016. \$106,338.

Smithsonian Grand Challenges – Biodiversity Grant: Biodiversity, genomics and human ecology of California's Channel Islands. (Co-PI with T. Rick, T. Chesser, C. Hofman, J. Maldonado, K. Ralls and S. Sillett). \$100,000. 2013-2014.

UMD-SI Seed Grant:

Smithsonian CGPS Award: Genomic resources for population and immunogenetic analysis of Hawaiian honeycreepers. (PI with J. Knowlton, T. Callicrate). \$43,909. 2013-2014.

Smithsonian CGPS Award: Comparative transcriptomics of three frog species with varying susceptibility to a deadly chytrid fungus. Co-PI with B. Gratwicke, A. Savage). 2013-2014. \$99,000.

National Science Foundation – Dimensions of Biodiversity Program: Collaborative Research: Historical and contemporary influences on elevational distributions and biodiversity tested in tropical Asia. (Co-PI, with T. Martin, E. Martinsen, R. Moyle, F. Sheldon). 2012-2016, \$2,000,000 (\$499,346 subcontract to Smithsonian Institution).

USGS-Patuxent: Genetic analysis of Appalachian salamanders and disease. (PI with J. Maldonado). 2012-2015, \$101,183.

Smithsonian Grand Challenges – Biodiversity Grant: Understanding pathogen mediated population decline and extinction (PI with K. Helgen, B. Gratwicke, T. Walsh, S. Murray, M. Moini, J. Calabrese). 2012-2013, \$100,000.

Smithsonian Grand Challenges – Biodiversity Grant: Marine parasitism: understanding broad-scale diversity, effects, and processes (Co-PI with G. Ruiz, M. Torchin, E. Strong, B. Tunberg). 2012-2013, \$100,000.

USFWS-Maine Coastal Islands NWR: PCR analysis of parasites in seabirds. 2012. \$3,780.

Smithsonian Grand Challenges – Biodiversity Grant: Vertebrate diversity and the emergence of tick-borne diseases: an expansion to include the SIGEO Plot in Front Royal. 2012. (Co-PI with W. McShea, P. Jansen, H. Esser, J. Maldonado, K. Helgen and J. Calabrese). \$30,000.

Scholarly Studies Program, Smithsonian Institution: Unraveling the evolutionary histories and biogeography ecologically dominant plant groups of the Hawaiian Islands using novel molecular markers. (Co-PI with W. Wagner, H. James, J. Horn). 2011-2012. \$49,000.

UMD-SI Seed Grant: Forensic ecology: do museum collections hold the key to unraveling the complexities of disease history and population declines in Appalachian salamanders? (Co-PI with K. Lips, R. McDiarmid). 2011-2012. \$43,880.

Smithsonian Grand Challenges: Building the Framework of Biodiversity Science at SI: Next Generation Phylogenetics (Co-PI with M. Braun, K. Wurdack, O. McMillan, S. Brady, et al.) 2011-2012. \$70,000.

Morris Animal Foundation: A molecular investigation into host switching by malaria parasites into captive zoo birds. 2010-2012. \$109,931.

James Bond Fund, Smithsonian Institution: Population genetic structuring in two Caribbean terns that differ in foraging and life history characteristics (PI with F. Hailer, B. A. Schreiber). 2011. \$30,000.

University of Oxford: Genetic analysis and relatedness of New Caledonian crows. 2010. \$11,914

Scholarly Studies Program, Smithsonian Institution: Phylogeny and rate calibration of Hawaiian

bird radiations using next generation sequencing approaches (PI with H. James). 2010-2011. \$61,300.

- Walcott Fund, Smithsonian Institution:** Mt-chips: Development of single chip capture arrays for whole mtDNA sequencing of all birds and all mammals (PI with H. Lerner). 2010. \$33,300.
- James Bond Fund, Smithsonian Institution:** Phylogeographic structure and conservation units in Caribbean seabirds - how do landmasses and oceanographic features shape diversity patterns. (PI with F. Hailer, B. A. Schreiber, and T. Chesser). 2009. \$29,500.
- Walcott Fund, Smithsonian Institution:** The genetic basis of bill morphology differences in an adaptive radiation of birds, the Hawaiian honeycreepers. (PI with H. James). 2009. \$25,000.
- Abbott Fund, Smithsonian Institution:** Exploring the role of historic disease in the decline of Tasmania's marsupial carnivores. (Co-PI with D. Wilson and K. Helgen). 2009. \$32,300.
- National Science Foundation** (via Michigan State University): The population and ecological history of an endangered seabird. (Co-PI with M. Ostrom and H. James). 2008-2011. Total: \$434,015 (to SI \$248,145).
- ITS-DOD:** Genetic assessment of desert tortoise reproductive success. (PI, collaboration with W. Boarman). 2008-2011. \$189,455.
- James Bond Fund, Smithsonian Institution:** Phylogeographic structure and conservation units in Caribbean seabirds - how do landmasses and oceanographic features shape diversity patterns. (PI with F. Hailer, B. A. Schreiber, and T. Chesser). 2008. \$34,800.
- Sherry Fund, Smithsonian Institution:** How does genetic relatedness influence juvenile dominance relations in ring-tailed coatis (*Nasua nasua*)? (co-PI with J. Maldonado, B. Hirsch and K. Ralls). 2008. \$12,000.
- National Science Foundation:** Characterization of MHC-dependent mate choice in Satin Bowerbirds (Dissertation Improvement Grant) (PI with P. Zwiers and G. Borgia) 2007-2008. \$11,910.
- National Science Foundation** (via University of Maryland): Molecular and morphological phylogenetics of Hawaiian songbird radiations (PI with H. James) 2007-2010. \$300,003.
- Pomona College/National Science Foundation:** DNA analysis of house wren parentage. (PI; collaboration with R. Levin). 2007-2008. \$14,658.
- Abbott and Plumb Funds, Smithsonian Institution:** MHC variation and mating success in Satin Bowerbirds (PI with P. Zwiers, G. Borgia) 2006-2007. \$15,000.
- Walcott Fund, Smithsonian Institution:** Ancient genetic variation and effective population size in Hawaiian Petrels (PI with A. Welch, H. James) 2006-2007. \$19,500.
- Walcott Fund, Smithsonian Institution:** Genetic defense against disease in elephants (co-PI with J. Maldonado, E. Archie, S. Murray) 2006-2007. \$9,900.
- Abbott Fund, Smithsonian Institution:** A study of comparative variation in Amazonian Antbirds (Thamnophilidae) (co-PI with T. Chesser) 2006-2007. \$24,800.
- Radiocarbon Fund, Smithsonian Institution:** Ecosystem-wide impacts of nesting seabird population declines in the Hawaiian Islands (PI with H. James, A. Welch). 2006. \$11,375.
- Hunterdon Fund, Marine Science Network, Smithsonian Institution:** Phylogeography and systematic relationships of tropical seabirds (PI with E. A. Schreiber, T. Steeves). 2006. \$10,000.
- Tropical Seabirds Research, private donations:** Phylogeography and systematic relationships of tropical seabirds (PI with E. A. Schreiber, T. Chesser). 2006-2010. \$64,000.
- Abbott Fund, Smithsonian Institution:** Using blood parasite lineages to delineate breeding and wintering ranges of North American warblers. (PI with P. Marra, S. Fallon) 2006. \$26,210.
- Abbott Fund, Smithsonian Institution:** The relationship between kinship and social behavior in a population of wild African elephants. (Co-PI with J. Maldonado, E. Archie). 2006. \$8,900.
- National Science Foundation** (via Michigan State University): Defining characteristics essential to biomolecular preservation: a systematic study of bone diagenesis. (Fleischer subcontract from PI M. H. Ostrom). 2005-2006. Total: \$356,079, to SI: \$20,216.
- National Science Foundation:** Disease, Genetic Bottlenecks and the Evolution of Immune Response in Island Avifauna (Dissertation Improvement Grant) (PI with Jon Beadell). 2005-2006. \$11,920.

- Abbott Fund, Smithsonian Institution:** Assessing Disease Threats in Pacific Avifaunas (PI with Jon Beadell). 2005. \$14,200.
- National Park Service:** Assessment of Genetic Variation and Development of a Management Plan for the Wild Horses of Assateague Island National Seashore. (Co-PI with J. Maldonado, L. Eggert, D. Powell). 2003-2004. \$28,500.
- Abbott Fund, Smithsonian Institution:** Molecular systematics of the Psittaciformes: a framework phylogeny. 2004 (PI with T. Wright, G. Graves). \$10,000.
- James Bond Fund, Smithsonian Institution:** Comparison of migrant and resident Caribbean bird haematozoan parasites. 2003-2004 (PI with G. Graves, S. Fallon). \$36,520.
- Radiocarbon Fund, Smithsonian Institution:** Dates for Hawaiian pig bones. 2003. (co-PI with J. Leonard, H. James) \$4,640.
- U.S. Fish and Wildlife Service, MIKE:** Genetic censusing of African elephants. 2002-2004. (co-PI with L. Eggert). \$66,420.
- U.S. Fish and Wildlife Service:** DNA fingerprinting of the endangered alala. 2002. \$9,441.
- Abbott Fund, Smithsonian Institution:** Phylogeography of historical populations of the black-footed ferret (*Mustela nigripes*): Implications for conservation biology. (Co-PI with J. Ballou, S. Wisely). 2002. \$9,400.
- National Science Foundation, Population Biology Program:** Comparative phylogeography of lowland New Guinea. (Co-PI with J. Dumbacher, A. Mack). 2001-2004. \$325,000.
- National Institutes of Health, National Institute of General Medical Sciences:** Evolution of Infectious Disease Program: Disease dynamics following multiple vector introductions. 2001-2006 (PI with D. Fonseca, and D. Lapointe). \$1,070,870.57
- U.S. Fish and Wildlife Service:** Identification of *Corvus* fossils on Maui. 2001-2002. \$7,290.
- Abbott Fund, Smithsonian Institution:** Mhc variation in *Neotoma*. 2001 (PI with J. Ballou, M. Matocq). \$7,000.
- National Science Foundation** (via University of Hawaii): Biocomplexity of introduced avian diseases in Hawaii. (Biocomplexity Program). 2001-2006 (Co-PI with D. Duffy, C. Atkinson, M. Samuel, and S. Jarvi). Total: \$4,188,575, to SI: \$503,896.
- National Science Foundation, Animal Behavior Program:** The course of evolution when selection for a behavioral adaption is relaxed: Host defenses against parasitic birds. (Co-PI with S. I. Rothstein, B. Peer) 2000-2003. Total: \$267,360, subcontract to SI: \$16,224 (plus postdoc).
- U.S. Fish and Wildlife Service:** Taxonomic and evolutionarily significant unit (ESU) status of California Yellow-billed Cuckoos (*Coccyzus americanus*). 2000-2001. \$28,342,
- Abbott Fund, Smithsonian Institution:** Microsatellite marker development for tropical songbirds. 2000-2001 (PI with L. Petit). \$7,000.
- National Science Foundation:** The Effects of Population Bottlenecks on Genetic Diversity and Rates of Molecular Evolution in *Spheniscus* Penguins. 2000-2002 (Dissertation Improvement Grant with E. Akst). \$10,130.
- Scholarly Studies Program, Smithsonian Institution:** Evolutionary relationships and rates of endemic Hawaiian birds. 1999-2001 (co-PI with B. Slikas, H. James, S. Olson). \$69,500.
- Abbott Fund, Smithsonian Institution:** Evolution and Conservation of Pacific Island *Acrocephalus* Warblers. 1999-2000 (PI with B. Slikas, G. Graves). \$11,700.
- U.S. Geological Survey - BRD:** Genetic structure and molecular sexing in ravens. 1998-2001. \$42,600.
- National Science Foundation** (via American University): SGER: Testing Hypothesized Organic Bases for Darwin's Chronic Illness with Molecular Genetic Methods. 1998-1999. \$9,890.
- Scholarly Studies Program, Smithsonian Institution:** Hybridization and the Decline in the Golden-winged Warbler. 1998-1999 (co-PI with L. Shapiro). \$35,000.
- Nelson Fund, Smithsonian Institution:** Golden-winged and Blue-winged Warbler Hybridization. (co-PI with L. Shapiro) 1998. \$5,000.
- Nelson Fund, Smithsonian Institution:** Dispersal in an Avian Malaria Vector, *Culex*

- quinquefasciatus*, on Kauai. (co-PI with D. Fonseca) 1998. \$5,000.
- Abbott Fund, Smithsonian Institution:** Fox squirrel genetic structure. (PI with J. Ballou, S. Lance). \$5000.
- California Water Board via CSU Stanislaus:** Genetic Structure of Kit Fox Populations in California. (PI with K. Ralls and D. Williams) 1998-99. \$40,000.
- National Geographic Society:** Molecular Phylogeography of Extinct and Endangered Hawaiian Birds. (PI, with H. James, S. Olson, E. Slikas, G. Nunn, C. Tarr, E. Paxinos) 1998-2000. \$48,390.
- National Geographic Society:** Genetics of Amazon trees. 1997-1998. Co-PI with M. Hamilton. \$20,850.
- Abbott Fund, Smithsonian Institution:** Evolutionary and Conservation Genetics of Hawaiian Birds. 1996-1997. \$7,000.
- Abbott Fund, Smithsonian Institution:** Genetic Variation in Endangered Giant Kangaroo Rats. 1996-1997 (Co-PI with K. Ralls).
- Research Training Grant Program, National Science Foundation:** Biology of Small Populations. PIs: G. Wilkinson & P.A. Abrams; collaborator with 14 others from Smithsonian Institution and University of Maryland. 1996-2001.
- U.S. Fish and Wildlife Service:** Defining Units of Conservation in the Mariana Islands: Genetic Distinctiveness of Bridled White-eye, Rufous Fantail, and Cardinal Honeyeater Populations. 1996-1997 (PI with S. Derrickson). \$14,824.
- Scholarly Studies Program, Smithsonian Institution:** Evolution of the Major Histocompatibility Complex in the Hawaiian Honeycreepers. 1995-1997 (PI with S. Jarvi and J. Ballou). \$69,000.
- NSERC via York University:** Parentage analysis of hooded warblers. 1995. (Co-PI with E. Morton, B. Stutchbury). \$15,800.
- Walcott Fund, Smithsonian Institution:** Ancient DNA Analyses of Extinct and Endangered Hawaiian Birds. 1994-1996. \$42,000.
- Hawaii Department of Land and Natural Resources:** Genetic Structure of Prehistoric and Modern Populations of the Nene. 1994-1995. \$10,000.
- U.S. Fish and Wildlife Service:** Conservation Genetics of Endangered Laysan Ducks and Hawaiian Ducks. 1994-1995. (PI with J. Rhymer, H. James and A. Cooper). \$10,000.
- Scholarly Studies Program, Smithsonian Institution:** Mating systems in grey seals. (Co-PI with D. Boness). 1994-1995. \$39,500.
- James Smithson Society:** Development of Immunogenetic Methods for the Management of Endangered Species. 1993-1994. \$47,000.
- U.S. Fish and Wildlife Service:** Genetic Variability and Differentiation of Endangered Clapper Rails in California. 1993-1994. (PI with D. Ledig). \$14,707.
- U.S. Fish and Wildlife Service:** Genetic Differentiation Between the Guam and Rota Populations of the Mariana Crow. 1993. \$2,145.
- U.S. Fish and Wildlife Service:** Population Ecology and Genetics of the Hawaiian Stilt. 1993-4. (co-PI with J. M. Reed and L. Oring). \$32,752.
- California Department of Fish & Game:** Genetic Variation in Relation to Giant Kangaroo Rat Colony Size. 1993-5. (co-PI with K. Ralls and D. Williams). \$66,936.
- Scholarly Studies Program, Smithsonian Institution:** Evolutionary Relationships of Extinct Hawaiian Birds. 1992-1994. (PI with S. Olson, H. James, T. Quinn). \$60,000.
- Abbott Fund, Smithsonian Institution:** Evolutionary Relationships of *Leontopithecus*. 1992. (PI with A. Rosenberger and D. Kleiman). \$4,760.
- National Science Foundation:** Population Bottlenecks, Inbreeding, and Estimation of Molecular Genetic Variation. 1991-1993. \$50,000.
- National Science Foundation:** Genetic Analyses of Captive and Wild Populations of Nene. 1991-93. (Dissertation improvement with E. Rave). \$13,542.
- U.S. Fish and Wildlife Service:** Cowbird Host Choice. 1991-1992. \$8,000.
- Hawaii Department of Land and Natural Resources:** Determination of species-specific markers

delineating mallards and koloas using mitochondrial DNA. 1991-2. (PI with J. Rhymer, H. James). \$3,000.

Hawaii Department of Land and Natural Resources: Molecular Estimates of Genetic Variation in the Nene. 1991. \$3,906.

The Wildfowl and Wetlands Trust, Slimbridge: DNA Fingerprinting Captive Populations of the Endangered Nene. 1990. \$7,500,

University of North Dakota: Graduate Research Professorship, 1990.

National Science Foundation: Research Opportunity Award: Molecular Analyses of Parentage in Kingbirds. 1990 (PI with M. T. Murphy). \$12,000.

National Science Foundation: Research Experiences for Undergraduates Supplement: Mitochondrial DNA Analyses of Gene Flow. 1990. \$3,365.

U.S. Fish and Wildlife Service: Molecular Population Genetic Analyses of the Endangered Palila. 1990-1992. \$55,000.

National Science Foundation: Polyandry and Lifetime Reproductive Success. 1990-1993. (Co-PI with L. Oring). \$203,000.

Hawaii Department of Land and Natural Resources: Genetic analysis of Captive and Wild Populations of the Nene (*Nesochen sandvicensis*) in Hawaii. 1989. \$3,906.

National Geographic Society: Reproductive Isolation and Genetic Variation in Two Hawaiian Honeycreeper Taxa. 1989-1990. \$11,300.

National Science Foundation: Testing Alternative Hypotheses for the Maintenance of Behavioral Differences among Populations. 1987-1989 (Co-PI with S. Rothstein). \$80,000.

University of North Dakota Faculty Research Grant: Molecular Evolution in the Hawaiian Honeycreepers. 1988-1989. \$8,450.

Instructional Development, University of North Dakota: Funding to Participate in a Molecular/Cellular Techniques Course at Marine Biological Laboratory, Woods Hole, 1988.

National Science Foundation: Genetically-based Changes in Introduced, Insular Avian Populations. 1986-1988 (PI with L. Freed). \$77,000.

University of Hawaii Faculty Research Fund: Systematics and Population Biology of Hawaiian Forest Birds. 1986-7 (PI with L. Freed). \$5,985.

Hawaii Department of Land and Natural Resources: Demographics of Urban Bird Populations in Waikiki Beach. 1986-1987. \$9,645.

Smithsonian Institution (STRI) Short-term Visitor Award: Host Selection by Giant Cowbirds. 1986. \$1,995.

University of Hawaii Faculty Research Fund: Genetic Founder Effects and Morphological and Life History Adaptation in Populations of Birds Introduced to Hawaii. 1985-1986. \$5,990.

National Science Foundation: The Origin and Significance of Macro- and Microgeographic Variation in a Vocalization of a Parasitic Bird. 1983-1985 (associate PI with S. I. Rothstein). \$55,999.

Frank M. Chapman Memorial Fund: Host Choice by Individual Female Brown-headed Cowbirds. 1982. \$1,260.

Frank M. Chapman Memorial Fund: Host Specificity and Egg Mimicry in the Brown-headed Cowbird. 1981.

Organization for Tropical Studies (RIAS grants): Breeding Biology of Costa Rican House Sparrows. 1980. \$400.

Membership in Professional and Conservation Societies (current memberships only):

American Association for the Advancement of Science (elected Fellow 2004), American Genetic Association, American Ornithologists' Union (elected Fellow 2000), Cooper Ornithological Society, Society for the Study of Evolution.

Invited Lectures or Seminars:

University of Hawaii, 1982; California Academy of Science, 1983; San Francisco State University,

1983; Oregon State University, 1984; Washington University, 1985; University of Hawaii, 3 in 1985; Rutgers University, 1985; University of Maryland, 1985; Smithsonian Tropical Research Institute, Panama, 1986; University of North Dakota, 1987; Academy of Natural Sciences, Philadelphia, 1987; Northern Prairie Wildlife Research Center, 1989; Colorado State University, 1990; National Zoological Park, Smithsonian Institution, 1990; Queen's University, Kingston, Ontario, 1991; University of Nevada, Reno, 1991; University of Hawaii, 1991; Patuxent Wildlife Research Center, 1991; Conservation and Research Center, NZP, 1991; Pennsylvania State University, 1991; University of Maryland, 1991; Brown University 1992; University of Michigan, 1993; American University 1994; Hartwick College, 1994; SUNY Albany, 1995; University of California, Santa Barbara 1995; University of Southern Mississippi, 1995; University of Florida, 1995; Southern Illinois University, Carbondale, 1996; SUNY Stony Brook, 1996; Ohio State University, 1996; George Washington University, 1996; University of Minnesota, 1996; Armed Forces Institute of Pathology, Washington 1996; Cornell University, 1996; Boise State University, 1997; York University, 1997; University of California, Riverside, 1997; Duke University, 1997; Johns Hopkins University, 1997; Leicester University, 1997; Cornell University, 1997; University of Queensland, 1998; Cambridge University 1998; Nottingham University 1998; University of Durham, 1998; University of Newcastle 1998; Institute of Zoology, London 1999; The Natural History Museum, London, 1999; Museum of Natural Sciences, Madrid, Spain 1999; Papua New Guinea Museum and Art Gallery, Port Moresby, Papua New Guinea 1999; Academy of Natural Sciences, Philadelphia, PA 1999; USGS Hawaii Field Station, 1999; University of Hawaii, 1999; American University, 2000; University of Maine, 2000; National Museum of Natural History, Smithsonian Institution, 2000; Tufts University, 2000; Johns Hopkins University, 2000; University of Washington, 2000; Texas A&M University, 2000; Wildlife Institute of India, Dehradun, India, 2000; Institute of Zoology, London, 2001; University of Queensland, Brisbane 2001; University of Missouri at St. Louis, 2001; Saint Louis Zoo, 2001; Boston University, 2002; Wildlife Institute of India, Dehradun, India, 2002; Oregon State University, 2002; Portland State University, 2002; Durham University, 2002; California Academy of Sciences 2002; Museum of Vertebrate Zoology, University of California, Berkeley, 2002; Yale University, 2002; University of Nevada, Reno 2003; University of Wyoming 2004; Conservation and Research Center, Front Royal, VA 2004; American University 2005; Michigan State University 2005; New Mexico State University 2005; Georgetown University, 2005; University of Maryland, Baltimore County, 2005; Stanford University, 2005; TIGR (The Institute for Genomic Research), Rockville, MD 2006; Sheffield University, UK, 2006; Lund University, Sweden 2006; University of Kansas, 2006; Virginia Tech University, 2006; Uppsala University, Sweden, 2006; University of Vermont, 2006; Virginia Ornithological Society, 2006; University of Hawaii, 2006; American University 2007; Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany 2008; Purdue University, IN, 2008; Rutgers University, NJ, 2009; Western Illinois University, IL, 2009; California Academy of Sciences 2009; Instituto Politecnico, Mexico City 2009; University of Cincinnati, 2010; University of Colorado, Boulder 2010; University of Rome, Sapienza, 2011; Southern Illinois University, Carbondale 2012; Armed Forces DNA Identification Laboratory, Rockville, MD, 2012; University of California, Santa Cruz, CA 2013; University of Maryland 2013.

Papers/Posters Authored at Following Meetings (*coauthor presented paper):

American Ornithologists' Union: Fort Collins, CO, 1980 (poster); Chicago, IL, 1982 (2 papers); New York, NY, 1983 (2 papers); Lawrence, KS, 1984; Tempe, AZ, 1985; San Francisco, CA, 1987 (3 papers); Pittsburgh, PA, 1989; Los Angeles, CA 1990; Missoula, MT 1994; Cincinnati, OH 1995 (2 posters); Boise, ID 1996 (2 Invited Symposium papers); Minneapolis, MN 1997 (3 papers); St. Louis, MO 1998 (3 papers, 2 posters); Cornell University, Ithaca, NY 1999 (3 papers, 3 posters); St. Johns, Newfoundland (paper and 2 posters); Seattle Washington (3 papers, 2 posters) 2001; New Orleans, LA 2002 (2 papers, 3 posters); *Champaign, IL (Invited Symposium paper); Quebec City, Canada 2004 (2 Invited Symposium papers, one paper, 5 posters); Santa Barbara, CA 2005 (3 papers, 5 posters); Veracruz, Mexico 2006 (three Invited Symposium papers, poster); Laramie, Wyoming 2007 (1 paper, 1

poster); Portland, OR 2008 (Symposium co-organizer and speaker; Plenary Speaker; 2 papers); Philadelphia, PA 2009 (two paper); San Diego, CA 2010 (2 papers, 2 posters); *Jacksonville, FL 2011 (2 papers); Vancouver, BC 2012 (3 papers, 1 poster); Chicago, IL 2013 (invited symposium, paper).

Cooper Ornithological Society: Tempe, AZ, 1978; Logan, UT, 1982; *Boulder, CO, 1985; *Davis, CA, 1986; Seattle, WA, 1992; Sacramento 1993 (student award committee chair); Hilo, HI, 1997 (Symposium Keynote, workshop talk, plus 1 co-authored paper); Riverside, CA, 2000 (Invited Symposium paper); Albuquerque, NM 2001 (poster, paper); Flagstaff, AZ, 2003 (Invited Symposium paper); Tucson, AZ 2009 (poster).

Society for the Study of Evolution: Iowa City, IA, 1981 (2 papers); Durham, NH, 1986; Hilo, Hawaii 1991 (3 papers); Berkeley, CA, 1992; Athens, GA 1994; Boulder, CO 1997 (paper, poster); Bloomington, IN 2000 (paper); Knoxville, TN 2001 (paper, two posters); Champaign-Urbana, IL 2002 (paper); *Chico, CA 2003 (paper, poster); *SUNY Stony Brook, NY 2006 (three papers); *Moscow ID 2009 (three papers, one poster); *Portland, OR, 2010 (one paper).

Association of Zoos and Aquariums: Invited paper: Omaha, NE, 1993.

American Society of Zoologists: *Tampa, FL, 1979; Dallas, TX, 1981; St. Louis, MO, 1994 (Invited Symposium speaker); Washington, DC 1995 (Invited Symposium speaker).

International Congress of Systematic and Evolutionary Biology: College Park, Maryland, 1990; Budapest, Hungary 1996.

International Ornithological Congress: Christchurch, New Zealand, 1990; Vienna, Austria, 1994 (round-table convenor, Symposium paper w/L. Oring, poster).

Ancient DNA Conference: Nottingham, UK, July 1991; Washington, DC, October 1993 (co-organizer, paper session chair, paper); *Oxford, UK, July 1995 (1 poster).

American Institute of Biological Sciences: Honolulu, HI, August 1992 (2 Invited Symposium papers, Speaker on one); Washington DC 2007, Evolutionary Biology and Human Health panelist: (1) Infectious Disease, (2) Genomics.

International Congress of Behavioral Ecology: *Princeton, NJ 1992.

Hawaiian Conservation Meeting: *Hilo, HI 1996

Medora Meeting/Biodiversity: Medora, ND. 1995 (Invited Speaker).

Marine Mammal Genetics Meeting: *La Jolla, CA, 1994, (2 posters).

Marine Mammal Society: Orlando, FL, 1995 (2 posters); Wailua, HI, 1999 (2 oral presentations); San Diego, CA, 2005 (poster).

American Society of Mammalogists: *Grand Forks, ND, 1996; *Stillwater OK, 1997; *Lubbock TX, 2003 (2 papers); *Columbia, MO, 2005.

International Otariid Symposium, Washington, DC (Symposium paper coauthor).

American Assoc. Anthropological Genetics: Denver, CO, 1996 (Invited Speaker).

Ecological Genetics of Mammals Symposium: Kiel, Germany, 1996 (Invited paper).

Symposium on Parasites and Diseases in Small Populations: University of Maryland Research Training Grant in Small Population Biology, College Park, Maryland, 1998 (Invited Speaker).

Conservation Biology Meeting: Sydney, Australia 1998 (Symposium co-convenor/speaker); Missoula, MT, 2000 (Invited Symposium speaker); Hilo, HI, 2001 (coauthored paper).

Conservation Genetics Symposium, Australian Genetics Society: Sydney, Australia, 1998 (Invited Symposium Speaker).

Molecular Biology and Evolution Meeting: New Haven, CT, 2000 (Invited Symposium speaker); Sorrento, Italy, 2002 (poster).

USGS / University of Idaho Workshop on Small Population Biology: McCall, ID, 2000 (Invited Keynote Speaker).

Birds of Two Worlds Symposium: Sheperdstown, WV 2002 (Introductory Remarks on population structure of migratory birds).

Evolution of Infectious Disease Meeting: National Institutes of Health, Bethesda, MD 2002 (poster).

Salt Marsh Symposium: USGS Patuxent National Wildlife Research Center, Patuxent, MD 2002 (Invited Speaker).

UMD-SI NSF-Research Training Grant Symposium in “Empirical and Theoretical Advances in Studies of Effective Population Size”: Co-Organizer. National Zoological Park, University of Maryland, 2002.

International Congress of Genetics: Melbourne, Australia, 2003 (Invited Speaker for Conservation Genetics Symposium).

Population Genetics for Animal Conservation Workshop: Trento, Italy, 2003 (Invited speaker).

1st International Conservation Genetics Meeting: Front Royal, VA, 2003 (Invited Speaker).

Cetacean Systematics: Approaches in Genetics, Morphology and Behavior: San Diego, CA, 2004 (Invited Speaker and Workshop participant).

Symposium on the Status of the Black-footed Ferret and its Habitat: Fort Collins, CO, 2004 (Co-author, Invited Paper).

Ravens Today, International Symposium: Metelen, Germany, 2004 (Invited Keynote Speaker, plus contributed paper).

Recent Avian Extinctions, International Symposium (Linnean Society/British Ornithologists Union), London, UK, 2004 (Invited Speaker).

Avian Malaria Symposium, New York University Medical School, NY, 2005 (Invited Speaker).

Smithsonian Botanical Symposium, Island Archipelagos: Cauldrons of Evolution: National Museum of Natural History, Washington, DC 2006 (Invited “Wrap-up” Speaker).

Evolutionary Change in Human-altered Environments, an International Summit, UCLA, Los Angeles, CA, 2007 (Invited Speaker, Invasive Species and Pathogens section).

Meeting of the Helminthological Society of Washington, Washington, DC, 2007 (Invited Speaker).

American Institute of Biological Science, Washington, DC annual meeting, 2007. (Invited Panelist: “Infectious Diseases” Session and “Genes and Genomics” Session).

Malaria Genomics Workshop, American Museum of Natural History, New York, NY, 2007 (Invited Speaker).

3rd International Conservation Genetics Symposium, American Museum of Natural History, New York, NY, 2007 (Invited Speaker: Genetics of Invasive Species section).

Desert Tortoise Council Meeting, Mesquite, NV, 20-22 February 2009. Talk entitled: “Fine-scale Landscape Genetic Structure of Desert Tortoises at Ft. Irwin” (by Emily K. Latch, Robert C. Fleischer, William I. Boarman, and Andrew Walde).

Public Symposium and NSF-sponsored meeting (Invited Speaker, Participant), "Learning from Extinctions and Saving Species Today: Applications of Genome Sequencing". Pennsylvania State University. April 2009.

Workshop on Genomics, Extinction and Conservation (Invited Speaker, Participant). San Diego Zoo’s Institute for Conservation Research. 5-6 December 2009.

Conservation Genomics, American Genetics Association Symposium, Hilo, HI, 25-28 July 2010 (invited symposium speaker).

International Symposium on Biomolecular Archaeology, Copenhagen, 7-11 September 2010 (presented paper).

International Conference: Evolution of Life on Pacific Islands and Reefs: Honolulu, 26-30 May 2011 (conference organizing committee, symposium speaker “Songbird Radiations on the Hawaiian Conveyor Belt”).

International Meeting on Malaria Parasites of Wildlife: National Conservation Training Center, Sheperdstown, WV, August 5-7 2011. (conference organizer, presented two papers, one poster).

National Breeders Roundtable: St. Louis, MO, 3-4 May 2012. (Symposium speaker: “Using genetics to save species in zoos and in the wild”).

American Society of Parasitologists Annual Meeting: New Orleans, LA, 25 July 2014. Wildlife Malaria Symposium speaker: “*Plasmodium relictum*: A Tale of Host, Parasite and Vector Interactions”.

Service and Outreach:

Academic Editor: *PLoS ONE* (2009-2012).
Associate Editor: *Conservation Genetics* (1998-2003).
Editorial Board: *Conservation Genetics* (2003-present)
Editorial Board: *Current Ornithology* (1999-2004).
Associate Editor: *The Auk* (2001-2006).
Editorial Board: *Journal of Heredity* (2002-present).
Editorial Board: *Molecular Ecology* (1991-95).
Council Member: *American Ornithologists' Union* (2007-2010).

Manuscript review (>10 ms/y): *American Journal of Tropical Medicine and Hygiene, American Naturalist, Animal Behavior, Auk, Behavioral Ecology and Sociobiology, Biochemical Systematics and Ecology, Comparative Biochemistry and Physiology, Condor, Conservation Biology, 'Elepaio, Evolution, Genetics, Heredity, Ibis, Journal of Avian Biology, Journal of Heredity, Molecular Ecology, Molecular Biology and Evolution, Molecular Phylogenetics and Evolution, Murrelet, Nature, Nature Genetics, Nucleic Acids Research, Proceedings of the Royal Society Series B, Proceedings of the National Academy of Sciences USA, Science, Public Library of Science-Biology, Public Library of Science-One, Trends in Ecology and Evolution, Wilson Bulletin, Zoo Biology, BMC-Evolutionary Biology.*

National Science Foundation: Dissertation Improvement Panel (1991); Conservation Biology Panel (1992); Population Biology Panel (1993, 2006, 2008); Career Panel (1996); plus, reviewed numerous proposals for Animal Behavior, Population Biology, Systematics, Polar, and Anthropology programs.

Smithsonian Institution/Wildlife Conservation Training Course Instructor: lecture/lab on field ornithology and conservation genetics for one week each; Nepal, 1996; China, 2002; Namibia 2003.

Conservation Genetics Course, Front Royal VA, 2000, 2002, 2004: invited lecturer.

Johns Hopkins University, Conservation Biology Course: Guest Lecturer on conservation genetics, 1999-2001.

University of Maryland-Smithsonian Research Training Grant: Microsatellite Development Workshop: Coordinator and lecturer for one-week lab and lecture course on development and application of microsatellite loci at NZP Genetics Lab, March 2000.

US Fish and Wildlife Service, Genetic of Endangered Species Course: Shepherdstown, WV 2002 (Lecturer).

Turku University, Finland, 2004: Guest Lecturer, Molecular Zoology Workshop (lectures on molecular systematics, host/parasite interactions, ESUs and conservation units).

Smithsonian Congress of Scholars: Elected NZP Representative/Treasurer (1999-2003).

Evaluator: St. Louis Zoo strategic planning workshop, 27-29 April 2009.

Member: Evolutionary and Systematic Biology Fellowship Committee, Smithsonian Institution (1991-1996).

Member: Steering Committee, NSF Research Training Grant in Small Population Biology, Smithsonian Institution / University of Maryland (1996-7; 2000-2001).

Member: Pacific Avian Recovery Coordinating Committee, USF&WS (1991-1995).

Member: Grinnell Award Committee, Cooper Ornithological Society (2000-2003).

Member: Brewster and Coues Award Committee, American Ornithologists' Union (2002).

Councilor: American Ornithologists' Union (2008-2010).

Co-organizer: Workshop on Molecular Evolution, Smithsonian Institution, May 2009.

Member: Systematics Advisory Group, Association of Zoos and Aquariums.

Member: National Zoological Park Science Council (co-chair - 1993-1996).

Member: Science Council, National Museum of Natural History (2002-2004).

Member: Search Committee, Undersecretary for Science, 2009.

Member: Steering Committee, Smithsonian Ornithology (2003-2005).

Member: Status Review Committee for Northern Spotted Owl (2003-2004).

Member: Status Evaluation Committee for California Gnatcatcher, USFWS (2004).

Member: Computation Strategies Working Group, Smithsonian Institution, (2010).

Member: Smithsonian Marine Science Network, NZP representative (2008-present).

Member: Steering Committee, Smithsonian MarineGEO (2010-present).

Member: Steering Committee, NSF-Research Coordination Network for Haemosporida of Terrestrial Vertebrates (2010-present).

Co-organizer: Workshop on Comparative Genomics, Smithsonian Institution, 3-7 October 2011.

Selected Public Lectures and Exhibits:

National Zoological Park Public Lecture Series: Presented: Genetics and conservation biology. 1994.

Jason Project – Hawaii – Island Earth: Developed curriculum for Hawaiian forest bird segments, presented on camera by graduate student Cheryl Tarr, 1994.

The Smithsonian Associates, Hawaii Mini-Symposium: Presented talk on evolution and genetics of Hawaiian birds. 1995.

Smithsonian Associates Tour – Costa Rica: Biologist and lecturer for 10 day tour.

Smithsonian Voices of Discovery: Presented 11 public lectures at Bell Museum, Minnesota Museum of Science, Minnesota Zoo, Concordia College, etc. during October 1996.

Hawaiian Bird Exhibit: Coordinated development of the exhibit at the Bird House of the National Zoo, wrote most of the exhibit material, and coordinated the opening reception (replete with hula dancers, a kahuna, lau lau, and leis), 1997.

Washington Raptor Society: Lecture: Raptors of Hawaii, 1999.

FONZ Genetics Course: Organized course covering applications of genetic methods in systematics, population biology and behavior, and presented introductory lecture, 1999.

Discovery Channel: Science Live! Interview on Ancient DNA and raising the mammoth, 1999.

National Public Radio, Diane Rehm Show: Interview on use of DNA in conservation, 2000.

National Zoological Park Public Lecture Series: Genetics Symposium, Organizer and Emcee for lecture series by successful former Genetics Lab postdoctoral fellows (Alan Cooper, Michael Sorenson, Susan Haig), 2000.

American Chemical Society Annual Meeting: General Lecture: Ancient DNA. San Diego, CA, 2001.

Maryland Ornithological Society Meeting: Lecture “Birds of paradise lost: evolution, extinction and conservation of Hawaiian birds”. 2002.

The Smithsonian Associates, “Birds of A Feather” Mini-symposium: Organizer, presented lecture: “It’s All Relative: Using DNA to Determine Kin and Species Level Relationships of Birds”, 2004.

San Fernando Valley Audubon Society: Presented: “Birds of paradise lost: evolution, extinction and conservation of Hawaiian birds”, January 2004.

Prince George’s County Audubon Society: Presented: “Birds of paradise lost: evolution, extinction and conservation of Hawaiian birds”, November 2004.

British Ornithologists Club, London, UK, 2004 (Invited Speaker).

National Zoological Park Public Lecture Series: Presented: “Ancient DNA solves mysteries of Nature”, January 2007.

Three Rivers Bird Club, Pittsburgh, PA, Lecture: Presented: “Who’s your daddy: extra-pair mating in birds – how we document it and why they do it”. December 2010.

Archaeological Museum of Populonia, Piombino, Italy, Lecture: Presented: “Ancient DNA analysis of pharmaceuticals: issues and conclusions”. May 2011.

Smithsonian Resident Associates Lecture: Presented “The Genomics Revolution and the Origins of Life”. April 2012.

Prince George’s County Audubon Society: Presented: “Who’s your daddy: extra-pair mating in birds – how we document it and why they do it”. March 2012.

Café Scientifique, Arlington: Presented: "Applying Genetics and Genomics to Assist Threatened

Species, in Zoos and in the Wild". March 2013.

Smithsonian Board of Regents: Presented: "Genomic applications in conservation and pathogen biology". Smithsonian Castle, February 2014.

Smithsonian National Board: Presented a talk to National Board members on Hawaii trip: "Smithsonian research on Hawaiian birds". Hale Pohaku, Hawaii Island, February 2014.