

## Curriculum Vitae

**Emília P. Martins**

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**EDUCATION**

- 1983-87 B.A., Zoology and Psychology, University of California, Berkeley  
 1987-91 M.S., Biometry, University of Wisconsin, Madison (advisor: E. V. Nordheim)  
 1987-92 Ph.D., Zoology, University of Wisconsin, Madison (advisor: J. R. Baylis)  
 1992-94 Postdoc, Univ. of Washington, Seattle (advisor: J. Felsenstein) and Univ. of Oregon, Eugene (advisor: M. Lynch)

**APPOINTMENTS**

- 2019-now Associate Director of Graduate Programs, School of Life Sciences, Arizona State University, Tempe (managing affairs for 350+ students in 13 graduate programs)  
 2017-now Professor, School of Life Sciences, Arizona State University, Tempe  
 2015-2017 Program Director, National Science Foundation Directorate for Biological Sciences, Division of Integrative Organismal Systems (NSF BIO-IOS), Animal Behavior  
 2009-12 Director (2009-12) of NSF-funded summer program for undergraduate research in animal behavior (Co-Director in 2004-09 and 2012-15)  
 2007-2017 Professor, Department of Biology, Indiana University, Bloomington. Member of Evolution, Ecology & Behavior group; affiliated with Center for the Integrative Study of Animal Behavior, Cognitive Science Program, Program in Neuroscience, and the Common Themes in Reproductive Diversity training grant.  
 2006-09 Associate Dean for Graduate Education (50% time, managing affairs for 3000+ students in 50+ departments), College of Arts & Sciences, IU, Bloomington  
 2005-06 Associate Dean for Student Diversity (25% time, directing an NSF-funded, cross-institution AGEP program), University Graduate School, IU, Bloomington  
 2002-08 Director, Center for the Integrative Study of Animal Behavior, IU, Bloomington (interdepartmental center representing 40+ faculty members)  
 2001-07 Associate Professor, Department of Biology, Indiana University, Bloomington  
 2000-01 Associate Professor, Department of Biology, University of Oregon  
 1994-00 Assistant Professor, Department of Biology, University of Oregon

**HONORS**

- 2019 Fellow, American Association for the Advancement of Science (AAAS)  
 2013-2017 President (2<sup>nd</sup>-president elect, 1<sup>st</sup>-president-elect, president & past-president), Animal Behavior Society (elected)  
 2013 Exemplar, Center for the Integrative Study of Animal Behavior (Indiana University)  
 2011 Fellow, Animal Behavior Society  
 2011 Lecturer, Roger E. Carpenter in Comparative Biology, San Diego State University  
 2001-2003 Councilor, Society for the Study of Evolution (elected)  
 1998-2001 Program Officer, Animal Behavior Society (elected)  
 1998 NSF Career Award  
 1992-1994 NSF Postdoctoral Fellow  
 1987-1991 NSF Predoctoral Fellow

## PUBLICATIONS & COMPUTER PROGRAMS

(Italics marks students in the Martins lab at the time the work was done; \*marks undergraduate authors. <sup>P</sup>marks postdoc authors. All others were graduate student authors. Computer programs are listed in units that are comparable to research articles in terms of theoretical development, scientific analysis and written interpretation.)

### Published or in press:

1. <sup>P</sup>Shelton DS, \*Shelton SG, Daniel DK, Raja M, Bhat A, Tanguay RL, Higgs DM, Martins EP. 2020. Collective behavior in wild zebrafish. **Zebrafish** 17: 243-252.
2. <sup>P</sup>Suriyampola PS, Lopez M, \*Ellsworth BE, Martins EP. 2020. Reversibility of multimodal shift: Zebrafish shift to olfactory cues when the visual environment changes. **Integrative and Comparative Biology** 60:33-42.
3. Campos SM, Pruett JA, Soini HA, Zúñiga-Vega JJ, Goldberg JK, Vital García C, Hews DK, Novotny MV, Martins EP. 2020. Volatile fatty acid and aldehyde abundances evolve with behavior and habitat temperature in lizards. **Behavioral Ecology** 31: 978-991.
4. <sup>P</sup>Rivera JA, Lawing AM, Martins EP. 2020. Reconstructing historical shifts in suitable habitat of *Sceloporus* lineages using phylogenetic niche modeling. **Journal of Biogeography** 47: 2117-2128.
5. <sup>P</sup>Romero-Diaz C, Campos SM, \*Herrmann MA, Lewis KN, Williams DR, Soini HA, Novotny MV, Hews DK, Martins EP. 2020. Structural identification, synthesis and biological activity of two volatile cyclic dipeptides in a terrestrial vertebrate. **Scientific Reports** 10:4303.
6. \*Herrmann MA, Campos SM, Martins EP, <sup>P</sup>Romero-Diaz C. 2020. Eye-bulging behavior in *Sceloporus* lizards: A role in chemical communication? **Copeia** 108:309-315.
7. Fuentes-G. JA, Polly PD, Martins EP. 2020. A Bayesian extension of phylogenetic generalized least squares (PGLS): incorporating uncertainty in the comparative study of trait relationships and evolutionary rates. **Evolution** 74: 311-325.
8. <sup>P</sup>Roy T, <sup>P</sup>Suriyampola PS, Flores J, Lopez M, \*Hickey C, Bhat A, Martins EP. 2019. Color preferences affect learning in zebrafish, *Danio rerio*. **Scientific Reports** 14531.
9. Goldberg JK, \*Pintel G, Weiss SL, Martins EP. 2019. Predatory lizards perceive plant-derived volatile odorants. **Ecology and Evolution** 9:4733-4738.
10. <sup>P</sup>Romero-Diaz C, <sup>P</sup>Rivera JA, Ossip-Drahos AG, Zúñiga-Vega JJ, Vital Garcia C, Hews DK, Martins EP. 2019. Losing the trait without losing the signal: Evolutionary shifts in communicative colour signaling of *Sceloporus* lizards. **Journal of Evolutionary Biology** 32:320-330.
11. Fuentes-G. JA, Martins EP. 2019. Using phylogenetic comparative methods to gain insight into the evolution of social complexity. **Behavioral Ecology & Sociobiology** 73:3.
12. Martins EP, Ossip-Drahos AG, Vital García C, Zúñiga-Vega JJ, Campos SM, Hews DK. 2018. Trade-offs between visual and chemical behavioral responses. **Behavioral Ecology & Sociobiology** 72:189.
13. <sup>P</sup>Suriyampola PS, Cáceres J, Martins EP. 2018. Effects of short-term turbidity on sensory preference and behavior of adult fish. **Animal Behavior** 146:105-111.
14. Sykes DJ, <sup>P</sup>Suriyampola PS, Martins EP. 2018. Recent experience impacts social behavior in a novel context by adult zebrafish (*Danio rerio*). **PLoSOne** 13: e0204994.
15. Ossip-Drahos AG, \*Berry NH, \*King CM, Martins EP. 2018. Information-gathering as a response to manipulated signals in the Eastern Fence Lizard, *Sceloporus undulatus*. **Ethology** 124: 684-690.
16. Martins EP, Fuentes-G. JAF. 2018. Comparative methods and phylogenetic tests of adaptation. In Oxford Bibliographies in Evolutionary Biology. Ed. Karen Pfennig. New York: Oxford University Press.
17. Zúñiga-Vega JJ, Fuentes-G. JA, Zamora-Abrego G, García-Vázquez UO, Nieto-Montes de Oca A, Martins EP. 2017. Evolutionary patterns in life-history traits of lizards of the genus *Xenosaurus*. **Herpetological Journal** 27: 346-360.
18. Campos SM, \*Strauss C, Martins EP. 2017. In space and time: Territorial animals are attracted to conspecific chemical cues. **Ethology** 123:136-144.
19. Shelton DS, Martins EP. 2017. Behavioral variation, adaptation and evolution. In: **APA Handbook of Comparative Psychology**. Eds: Call J, Burghardt G, Pepperberg I, Snowdon C, Zentall T.

20. <sup>P</sup>Suriyampola PS, Sykes DJ, Shelton DS, \*Khemka A, Martins EP. 2017. Water flow impacts group behavior in zebrafish (*Danio rerio*). **Behavioral Ecology** 28: 94-100.
21. Fuentes-G. JA, Housworth EA, \*Weber A, Martins EP. 2016. Phylogenetic ANCOVA: Estimating phenotypic diversification and evolutionary relationships in comparative studies. **American Naturalist** 188: 615-627.
22. Lawing AM, Polly PD, Hews DK, Martins EP. 2016. Including fossils in phylogenetic climate reconstructions: A deep time perspective on the climatic niche evolution and diversification of Spiny Lizards (*Sceloporus*). **American Naturalist** 188: 133-148
23. Pruett JA, Zúñiga-Vega JJ, Campos SM, Soini HA, Novotny MV, Vital Garcia C, Martins EP, Hews DK. 2016. Evolutionary interactions between visual and chemical signals: Chemosignals compensate for the loss of a visual signal in male *Sceloporus* lizards. **Journal of Chemical Ecology** 42:1164-1174.
24. <sup>P</sup>Suriyampola PS, Shelton DS, Shukla R, Roy T, Bhat A, Martins EP. 2016. Zebrafish social behavior in the wild: Population-level variation in zebrafish group dynamics in different vegetation and flow conditions. **Zebrafish** 13:1-8.
25. Zúñiga-Vega JJ, Fuentes-G. JA, Ossip-Drahos AG, Martins EP. 2016. Repeated evolution of viviparity in phrynosomatid lizards constrained interspecific diversification in some life-history traits. **Biology Letters** 12: 20160653.
26. Ossip-Drahos A, \*Oyola Morales J, Vital Garcia C, Zúñiga-Vega JJ, Hews DK, Martins EP. 2016. Shaping communicative color signals over evolutionary time. **Royal Society Open Science** 3:160728.
27. Bhat A, \*Greulich MM, Martins EP. 2015. Behavioral plasticity in response to environmental manipulation among zebrafish populations. **PLOS One** 10(4):e0125097.
28. Taborsky M, Hofmann HA, Beery AK, Blumstein DT, Hayes LD, Lacey EA, Martins EP, Phelps SM, Solomon NG, Rubenstein DR. 2015. Taxon matters: promoting integrative studies of social behavior. **Trends in Neuroscience** 38:189-191.
29. Martins EP, Ossip-Klein AG, Zúñiga-Vega JJ, Vital Garcia C, Campos SM, Hews DK. 2015. Evolving from static to dynamic signals: indirect effects and compensation between multiple signals. **Animal Behaviour** 102:223-229.
30. Shelton DS, \*Price BC, \*Ocasio KM, Martins EP. 2015. Density and group size influence shoal dimensions, but not coordination in zebrafish (*Danio rerio*). **J Comparative Psychology** 129:72-77.
31. Martins EP, Bhat A. 2014. Population-level personalities in zebrafish: aggression-boldness across but not within populations. **Behavioral Ecology** 25: 368-373.
32. Hews DK, Martins EP. 2013. Visual and chemical signals of social communication: Providing the link to habitat and environment. In: **Reptiles in Research: Investigations of Ecology, Physiology and Behavior from Desert to Sea**. WL Lutterschmidt, ed. Nova Publishers, Hauppauge NY.
33. Ossip-Klein AG, Fuentes JA, Hews DK, Martins EP. 2013. Information content is more important than sensory system or physical distance in guiding the long-term evolutionary relationships between signaling modalities in *Sceloporus* lizards. **Behavioral Ecology & Sociobiology** 67: 1513-1522.
34. Vital C, Martins EP. 2013. Socially-central zebrafish influence group behavior more than those on the social periphery. **PLOSOne** 8: e55503.
35. Whiteley AR, <sup>P</sup>Bhat A, Martins EP, Mayden RL, Arunachalam M, Uusi-Heikkilä S, Ahmed ATA, Shrestha J, Clark M, Stemple D, Bernatchez L. 2011. Population genomics of wild and laboratory zebrafish (*Danio rerio*). **Molecular Ecology** 20:4269-4276.
36. Vital C, Martins EP. 2011. Strain differences in zebrafish social roles and their impact on group task performance. **Journal Comparative Psychology** 125:278-285.
37. Ruiz, M, \*Wang D, \*Reinke EA, Demas GE, Martins EP. 2011. Trade-offs between reproductive coloration and innate immunity in a natural population of female Sagebrush lizards. **Herpetological Journal** 21:131-134.
38. Ruiz M, \*Beals ZM, Martins EP. 2010. Male sagebrush lizards (*Sceloporus graciosus*) increase exploratory behavior towards females with more courtship experience. **Herpetologica** 66:131-136.

39. Ruiz M, French SS, Demas GE, Martins EP. 2010. Food supplementation and testosterone interact to influence reproductive behavior and immune function in *Sceloporus graciosus*. **Hormones and Behavior** 57:134-139.
40. Nava S, \*Conway M, Martins EP. 2009. Sex-specific visual performance: female lizards outperform males in motion detection. **Biology Letters** 5:732-734.
41. Vital C, Martins EP. 2009. Using graph theory metrics to infer information flow through animal social groups: a computer simulation analysis. **Ethology** 115: 347-355.
42. <sup>P</sup>Ord TJ, Martins EP. 2009. Evolution of behavior: phylogeny and the origin of present-day diversity. IN: **Evolutionary Behavioral Ecology** (D.F. Westneat and C.W. Fox., eds.)
43. Nava SS, \*Conway M, Martins EP. 2009. Divergence of visual motion detection in diurnal geckos that inhabit bright and dark habitats. **Functional Ecology** 23: 794-799.
44. Ruiz M, \*Davis E, Martins EP. 2008. Courtship attention in Sagebrush lizards varies with male identity and female reproductive state. **Behavioral Ecology** 19: 1326-1332.
45. Thompson JT, Bissell AN, Martins EP. 2008. Inhibitory interactions between multimodal behavioral responses may influence the evolution of complex signals. **Animal Behaviour** 76: 113-121.
46. Kelso EC, Martins EP. 2008. The effects of two courtship display components on female reproductive behaviour and physiology in the sagebrush lizard. **Animal Behaviour** 75: 639-646.
47. <sup>P</sup>Moretz JA, Martins EP, Robison BD. 2007. Behavioral syndromes and the evolution of correlated behavior in zebrafish. **Behavioral Ecology** 18:556-562.
48. <sup>P</sup>Moretz JA, Martins EP, Robison BD. 2007. The effects of early and adult social environment on boldness and aggression in zebrafish (*Danio rerio*). **Environmental Biology of Fishes** 80:91-101.
49. Vital C, Martins EP. 2007. SocANet: Social Animal Networks. Computer programs for simulating and analyzing animal social networks (Funded by NSF IBN-0236049)
50. Bissell AN, Martins EP. 2006. Male choice and female avoidance as mechanisms of population discrimination in lizards. **Behavioral Ecology & Sociobiology**, 60: 655-662.
51. \*Smith CB, Martins EP. 2006. Display plasticity in response to a robotic lizard: Signal matching or song-sharing in lizards? **Ethology** 112: 955-962.
52. <sup>P</sup>Ord TJ, Martins EP. 2006. Tracing the origins of signal diversity in anole lizards: phylogenetic approaches to inferring the evolution of complex behaviour. **Animal Behaviour**, 71: 1411-1429.
53. Martins EP, <sup>P</sup>Ord TJ, Slaven J, \*Wright JL, Housworth EA. 2006. Individual, sex, seasonal and temporal variation in the amount of Sagebrush lizard scent-marks. **Journal of Chemical Ecology**, 32: 881-893.
54. Martins EP, <sup>P</sup>Ord TJ, \*Davenport S. 2005. Combining motions into complex displays: playbacks with a robotic lizard: Playbacks with a robotic lizard. **Behavioral Ecology and Sociobiology**, 58: 351-360.
55. <sup>P</sup>Ord TJ, Martins EP, Thakur S, \*Mane K, Börner K. 2005. Ethoinformatics: mining library databases to identify trends in animal behaviour research (1968-2002). **Animal Behaviour**, 69: 1399-1413.
56. Martins EP, Ord TJ. 2005. EthoBank & Lizard display archive. (A public archive for behavioral data, jump-started with hundreds of film clips and associated measures of the communicative displays captured on those clips. Funded by NSF IBN-0236049)
57. Thakur S, Börner K, \*Mane K, Martins EP, Ord TJ. 2004. Content coverage of animal behavior data. Proceedings of the Conference on Visualization and Data Analysis 2004, IS&T/SPIE's Electronic Imaging '04, Jan. 2004, San Jose, CA.
58. <sup>P</sup>†Ord TJ, Martins EP. 2004. Behavioral Phylogeny. For **Animal Behavior Encyclopedia**, M. Bekoff, Ed. Greenwood Publishing Group.
59. Martins EP, Lacy KE. 2004. Complex behavior and ecology in rock iguanas. I. Evidence for an appeasement display. IN: **Iguanas: Biology and Conservation** (A. Alberts, R. Carter, W. Hayes & Martins EP eds.). PP. 101-108.
60. Martins EP, Labra A, Halloy MP, Thompson JT. 2004. Large scale patterns of signal evolution: An interspecific study of *Liolaemus* lizard headbob displays. **Animal Behaviour** 68: 453-463.

61. Martins EP 2004. EthoSource: a new initiative for storing, sharing and combining behavioral data. **BioScience**, 54: 886-887. (editorially reviewed)
62. Martins EP. 2004. Behavior and Ecology. Introduction. IN: **Iguanas: Biology and Conservation** edited by Allison Alberts, Ron Carter, William Hayes, & Emilia Martins. University of California Press. PP. 97-100.
63. Housworth EA, Martins EP, Lynch M. 2004. The phylogenetic mixed model, *Am. Nat.* 163: 84-96.
64. *Bissell AN*, Martins EP. 2004. Complex behavior and ecology in rock iguanas. II. Population differences, behavior and conservation IN: **Iguanas: Biology and Conservation** (A. Alberts, R. Carter, W. Hayes & Martins EP eds.). PP.109-118.
65. *Vital C*, Martins EP. 2004. BeSt: Behavioral Stream Analyses. Computer programs for analyzing focal animal sample data, including Information Theory Statistics (Funded by NSF IBN-0236049).
66. Martins EP, Jamil H. 2004. EthoSource Administration Center (A major software contribution to the EthoSource initiative including more than a dozen programs and considerable development of algorithms and interfaces to allow users with extremely diverse datasets to enter, to manipulate and to combine data. Funded by NSF IBN-0236049)
67. Alberts A, Carter RL, Hayes W, Martins EP, editors. 2004. **Iguanas: Biology and Conservation**. UC Press. (Chapters were peer reviewed.)
68. Martins EP, Jamil H. 2003. EthoSource Prototype. (An initial set of programs and web site that shows how data could be combined, and which highlighted potential problems, designed for the EthoSource initiative and funded by NSF IBN-0205180.)
69. Martins EP. 2003. COMPARE 4.5: statistical analysis of comparative data. Computer programs distributed by the author (Several programs were added including rates estimation, the Phylogenetic Mixed Model, and functions to generate and manipulate random phylogenies. Development of the underlying algorithms and interfaces required an especially large theoretical contribution. Funded by NSF DEB-9720641)
70. *Lacy KE*, Martins EP. 2003. The effects of anthropogenic habitat usage on the social behaviour of a vulnerable species, *Cyclura nubila*. **Animal Conservation**, 6:3-9. (Journal cover.)
71. Martins EP, Housworth EA. 2002. Phylogeny shape and the phylogenetic comparative method. **Systematic Biology**, 51: 873-880.
72. Martins EP, Diniz-Filho JA, Housworth EA. 2002. Adaptation and the phylogenetic comparative method. **Evolution** 56: 1-13.
73. Housworth EA, Martins EP. 2001. Random sampling of constrained phylogenies: Conducting phylogenetic analysis when the phylogeny is partially known. **Systematic Biology** 50: 628-639.
74. Martins EP. 2000. Adaptation and the comparative method. **Trends in Ecology & Evolution** 15: 295-299.
75. Martins EP. 2000. COMPARE 4.0: statistical analysis of comparative data. Computer programs distributed by the author (<http://compare.bio.indiana.edu>, moved to Indiana University and several new programs added. COMPARE 4.0 was highlighted in several graduate student courses and workshops around the world, so we also overhauled the documentation and wrote a tutorial. Funded by NSF DEB-9720641).
76. *Sheldahl LA*, Martins EP. 2000. Territorial behavior in the western fence lizard. **Herpetologica** 56: 192-207.
77. Martins EP. 1999. COMPARE 3.0: statistical analysis of comparative data. Computer programs distributed by the author. University of Oregon. (Major overhaul of programs and interface including translation into JAVA which made it platform-independent so that programs can be run over the internet by PC, Mac and UNIX users alike. Compare 3.0 received thousands of hits each day and was run approximately 100 times/day. Funded by NSF DEB-9720641).
78. Martins EP. 1999. Estimation of ancestral states of continuous characters: a computer simulation study. **Systematic Biology** 48: 642-650.
79. Martins EP, *Bissell AN*, *Morgan KK*. 1998. Population differences in a lizard communicative display: evidence for rapid change in structure and function. **Animal Behaviour** 56: 1113-1119.

80. Martins EP, *Lamont J.* 1998. Estimating ancestral states of a communicative display: a comparative study of *Cyclura* rock iguanas. **Animal Behaviour** 55: 1685-1706.
81. Martins EP. 1998. COMPARE 2.0: statistical analysis of comparative data. Computer programs distributed by the author. University of Oregon. (Theoretical development required to add several new analysis tools and documentation, but no major changes in the overall program or interface. COMPARE 2.0 was downloaded by 50-200 scientists each month from 1998-1999. Funded by NSF DEB-9720641).
82. Martins EP, *Hansen TF.* 1997. Phylogenies and the comparative method: A general approach to incorporating phylogenetic information into analysis of interspecific data. **American Naturalist** 149: 646-667; erratum 153: 448.
83. Martins EP, *Hansen TF.* 1996. The statistical analysis of interspecific data: A review and evaluation of phylogenetic comparative methods. In **Phylogenies and the Comparative Method in Animal Behavior**, E. Martins (ed.), Oxford Univ. Press. (editorially reviewed)
84. Martins EP, *Hansen TF.* 1996. A microevolutionary link between phylogenies and comparative data. In **New Uses for New Phylogenies**, P. Harvey, J. Maynard-Smith, and A. Leigh-Brown (eds.), Oxford Univ. Press.
85. Martins EP. 1996. Phylogenies, spatial autoregression, and the comparative method: A computer simulation test. **Evolution** 50: 1750-1765.
86. Martins EP. 1996. Conducting phylogenetic comparative analyses when the phylogeny is not known. **Evolution** 50: 12-22.
87. *Hansen TF*, Martins EP. 1996. Translating between microevolutionary process and macroevolutionary patterns: the correlation structure of interspecific data. **Evolution** 50: 1404-1417.
88. Martins EP. 1996. COMPARE 1.0: statistical analysis of comparative data. Computer programs distributed by the author via the WWW. University of Oregon. (This was a major advance on CMAP, involving a complete overhaul of computer code [translation into C++], user interface and documentation. COMPARE 1.0 was downloaded by 50-200 scientists each month from 1996-1998. Funded by NSF DEB-9406964)
89. de Queiroz K, Martins EP. 1996. Squamata on the Tree of Life, a WWW project. (<http://tolweb.org/tree?group=Squamata>)
90. Martins EP, editor. 1996. **Phylogenies and the Comparative Method in Animal Behavior**. Oxford Univ. Press. (Chapters were peer reviewed.)
91. Martins EP. 1995. Phylogenies and comparative data, a microevolutionary perspective. **Philosophical Transactions of the Royal Society of London B** 349: 85-91.
92. Martins EP. 1994. Phylogenetic perspectives on the evolution of lizard territoriality. In *Lizard Ecology: Historical and Experimental Perspectives*, L. Vitt and E. R. Pianka (eds.), pp. 117-144, Princeton Univ. Press.
93. Martins EP. 1994. Structural complexity in a lizard communication system: The *Sceloporus graciosus* "push-up" display. **Copeia** 1994: 944-955.
94. Martins EP. 1994. Estimating the rate of phenotypic evolution from comparative data. **American Naturalist** 144: 193-209.
95. Martins EP. 1993. Comparative studies, phylogenies and predictions of coevolutionary relationships. **Behavioral and Brain Sciences** Commentary 16:714-716. (editorially reviewed)
96. Martins EP. 1993. A comparative study of the evolution of *Sceloporus* push-up displays. **American Naturalist** 142: 994-1018.
97. Martins EP. 1993. Contextual use of the push-up display by the Sagebrush Lizard, *Sceloporus graciosus*. **Animal Behaviour** 45: 25-36.
98. Martins EP. 1992. The Comparative Method in Evolutionary Biology – a book review. **Animal Behaviour** 44: 1179-1180. (editorially reviewed)
99. Martins EP, Garland, T. Jr. 1991. CMAP – Comparative Method Analysis Programs. Distributed by the authors. Department of Zoology, University of Wisconsin, Madison. (This was a package of

programs implementing a handful of phylogenetic statistical analyses of interspecific data. Distributed by regular mail to about 80 scientists.)

100. Martins EP, Garland, T Jr. 1991. Phylogenetic analyses of the correlated evolution of continuous characters: a simulation study. **Evolution** 45: 534-557.
101. Martins EP. 1991. Individual and sex differences in the push-up display of the Sagebrush Lizard, *Sceloporus graciosus*. **Animal Behaviour** 41: 403-416.

## GRANTS

### Research grants:

- 2013-2019 NSF IOS-1257562 & DEB-1802296, “Evolution of integrated behavior (US-India collaboration)”; \$965,000. This project is a collaboration with Dr. Anuradha Bhat (Indian Institute-Kolkata) to uncover the ecological and physiological mechanisms underlying a relationship between aggression and boldness in zebrafish. It combines field measures of ecology and behavior, lab assays of sensory mechanism and plasticity, and phylogenetic modeling to predict the evolutionary impact of recent anthropogenic change.
- 2011-2017 NSF IOS-1050274, “Collaborative Research: Causes and Consequences of Signal Evolution”; \$413,000. This project was an international collaboration with Dr. Diana Hews (Indiana State University) and Mexican scientists (Drs. Cuauhcihuatl Vital García of Universidad Ciudad Juárez & Jaime Zúñiga-Vega of UNAM) to study the mechanisms by which some *Sceloporus* lizard species have lost their blue belly patches, and the evolutionary consequences of that loss to other signals (chemical and motion cues)
- 2005-09 Indiana University research funds; \$250,000+ (to support research during a period of administrative service)
- 2006-08 Indiana University FRSP, Genetic Basis of Behavioral Evolution in Zebrafish; \$77,096. (To support pilot research in NSF IOB-0543491)
- 2006-08 NSF IOB-0543491, Genetic Basis of Behavioral Evolution in Zebrafish; \$35,000 supplement. This award is to complete pilot experiments on a much larger project in collaboration with Dr. Barrie Robison (University of Idaho), and to host a high school teacher research experience.
- 2003-06 NSF IBN-0236049, Animal Behavior and Biological Databases & Inventory, “Creating a Visual Display Archive”, \$121,000, including \$6000 REU and \$15,000 research supplements. This grant included gathering, organizing and analyzing data on lizard visual displays to produce and to illustrate the uses of EthoBank, a public archive.
- 1998-03 NSF CAREER, DEB-9720641, Systematics and Computational Biology, “Phylogenies and the Comparative Method”, \$350,000. This award was to develop phylogenetic comparative methods and software, including [compare.bio.indiana.edu](http://compare.bio.indiana.edu)
- 1998-00 NSF DEB-9870831, International Programs, “U.S.-Argentina Cooperative Research: Testing for Behavioral Convergence”, \$38,000. This award was in collaboration with Drs. Monique Halloy (Argentina) and Antonieta Labra (Chile) to conduct research on the visual displays of *Liolaemus* lizards.
- 1997 University of Oregon Summer Research Award, \$4000.
- 1994-96 NSF– Systematic Biology, DEB-9406964, \$100,000.

### Training & Service grants:

- 2018-20 NSF IOS-1833455, Meeting: Weaving the Future of Animal Behavior; (2018-2021); Phoenix, AZ (with co-PIs Jennifer Fewell & Zuleyma Tang-Martinez) \$188,364. This

- award funds three professional-development workshops for early-career professionals in animal behavior science.
- 2015-17 NSF DBI-1460949, Research Experiences for Undergraduates in Animal Behavior (REU-site award with PI Laura Hurley & co-PI Troy Smith); \$488,800. This award funded a CISAB summer program for undergraduate research.
- 2009-15 NSF IOB-0851607, Research Experiences for Undergraduates in Animal Behavior (REU-site award with co-PIs Greg Demas & Laura Hurley); \$545,778. This award funded a CISAB summer program for undergraduate research.
- 2009-14 NSF IOB-0930509, Animal Behavior, “Increasing diversity through undergraduate student participation in the Animal Behavior Society meetings” \$76,568 (with co-PIs Peggy Hill & Zuleyma Tang-Martinez). This renewed the Charles H. Turner program for five years, providing travel and mentoring for undergraduate students from underrepresented minority groups at the Animal Behavior Society meetings.
- 2007-09 NSF IOB-0735035, Animal Behavior, “Increasing diversity through undergraduate student participation in the Animal Behavior Society meetings” \$33,780 (with co-PIs Sue Bertram, Peggy Hill, Duane Jackson, Penny Kukuk & Zuleyma Tang-Martinez). This renewed funding for two years of the Charles H. Turner program, providing travel and mentoring for undergraduate students from underrepresented minority groups at the Animal Behavior Society meetings.
- 2006-09 F31 EY017278-01, National Eye Institute, National Institutes of Health, Pre-doctoral Fellowship for Saúl Nava.
- 2006-07 NSF IOB-0621383, Animal Behavior, “Travel to Animal Behavior Society Meetings” \$16,790 / year (with co-PIs Sue Bertram, Peggy Hill, Duane Jackson, Penny Kukuk & Zuleyma Tang-Martinez). This renewed funding for the Charles H. Turner program, providing travel support and activities for 12 undergraduates attending the Animal Behavior Society meetings.
- 2005-09 NSF DBI-0453403, Research Experiences for Undergraduates in Animal Behavior (with co-PI Bill Timberlake); \$354,000. This award funded a summer program for undergraduate research.
- 2004-17 Common Themes in Reproductive Diversity, NIH Training grant faculty member
- 2002-03 NSF IBN-0205180, Animal Behavior (research & service), “Behavioral Informatics: A beginning”, \$31,993 (with co-PI Anne Clark). This award funded software development (EthoSource Prototype and EthoSource Administration Center), and two workshops to design the underlying structure and future uses of the software.
- 2002-06 NSF IBN-0226726, Undergraduate Mentoring in Biology, “Travel to Animal Behavior Society Meetings”, \$60,000 (with co-PIs Peggy Hill and Duane Jackson). This award funded the Charles H. Turner Program that supported participation of 10 undergraduates at the Animal Behavior Society meetings.

### STUDENTS AND POSTDOCS TRAINED

#### Past Graduate Students (degree home & current positions):

Lamont, Jenny	MS, 1997 (UO, science writer and editor)
Sheldahl, Lea A.	MS, 1999 (UO, veterinarian)
Zani, Pete A.	PhD, 1999 (UO, prof at U Wisconsin, Stevens Point)
Lacy, Kathryn E.	MS, 2001 (UO, wildlife rehab & Lane community college prof)
Bissell, Ahrash N.	PhD, 2001 (UO, education research technology)
Thompson, Julie T.	PhD, 2002 (UO, prof American Public Univ)
Kelso, Erin	PhD, 2006 (IUB, postdoc U Miami, then lecturer U Colo Denver)



Nava, Saúl	PhD, 2009 (IUB, postdoc at Harvard, then prof MassArt)
Vital, Cuauhcihuatl	PhD, 2009 (IUB, prof UNC Juarez in Mexico)
Ruiz, Mayté (with G Demas)	PhD, 2010 (IUB, Ford postdoc U Puerto Rico, then other)
Lawing, A. Michelle (with D Polly)	PhD, 2012 (IUB, NIMBioS postdoc, then prof at Texas A&M)
Ossip-Klein, Alison G.	PhD, 2015 (IUB, prof at U N Georgia, Middle Georgia St U, Marian U)
Shelton, Delia S. (with J Alberts)	PhD, 2016 (IUB, NSF & NIH postdocs, then prof at U Tennessee)
Sykes, Delawrence J.	PhD, 2017 (IUB, NIH IRACDA postdoc at U Michigan, then prof at Pomona College)
Cáceres, Johanel	MS, 2017 (IUB, K-12 teacher in NYC)
Campos, Stephanie M.	PhD, 2018 (IUB, postdoc Georgia St U, then prof Swarthmore)
Fuentes-G., Jesualdo A.	PhD, 2018 (IUB, postdoc at U Alabama)
Rich, Heather (with M Rosenberg)	MS, 2019 (ASU, middle school teacher in California)
Flores, Jennifer (with H Bateman)	MS, 2020 (ASU)

#### Postdoctoral Students

Morales, Eduardo	1998-1999 (UO, prof at UNAMexico)
Butler, Marguerite	2000 (UO, prof at U Hawaii Manoa)
Ord, Terry J.	2002-2004 (IUB, prof at U New S Wales, Australia)
Moretz, Jason A.	2004-06 (IUB, ecological project director)
Bhat, Anuradha	2006-08 (IUB, prof at IISER, Kolkata India)
Roy, Tamal	2018 – 2019 (ASU, Humboldt postdoc in Germany)
Suriyampola, Piyumika S.	2014 – now (IUB & ASU)
Rivera, Julio A.	2017 – now (ASU)
Romero-Diaz, Cristina	2017 – now (ASU)
Rodríguez Suárez, Monserrat	2020 – now (ASU)

#### Current Graduate Students

Cavagnaro, John	PhD, started Fall 2019 (degree expected 2024)
Erudaitius, Anastassia	PhD, started summer 2020 (degree expected 2025)
Lopez, Melissa	MS, started summer 2020 (degree expected 2021)
Tufarelli, Alyssa	MS (4+1), started Fall 2020 (degree expected 2022)
Ronnebaum, Ashley	MS (4+1), started Jan 2021 (degree expected 2022)

#### Service on Graduate Advisory and Dissertation Committees:

##### Current PhD Dissertation Committees:

Webb, Emily (ASU Biology, K McGraw)	PhD, exp 2021, ASU-Tempe
Messer, Steven (ASU Biology, C Rabeling)	PhD, exp 2021, ASU-Tempe
Graham, Zackary (ASU Animal Behavior, M Angilletta)	PhD, exp 2021, ASU-Tempe
Gray, Kyle (ASU Evolutionary Biology, C Rabeling)	PhD, exp 2021, ASU-Tempe

##### Past Graduate Advisory and Dissertation Committees (since 2005 only):

Brandt, Jonathan Moshi (IU EEB, ED Brodie)	PhD, 2005, IUB
Dzieweczynski, Teresa (IU EEB, W Rowland)	PhD, 2006, IUB
Gardner, Keith (IU EEB, L Rieseberg)	PhD, 2006, IUB
Lehman, Elizabeth (IU EEB, ED Brodie)	PhD, 2006, IUB
McGlothlin, Joel (IU EEB, ED Ketterson)	PhD, 2007, IUB
Turner, Cameron (IU EEB, GT Smith)	MS, 2007, IUB
Jung, Min-Kyung (Math, EA Housworth)	PhD, 2007, IUB
Jhwueng, Dwueng Chwuan (IU Math, EA Housworth)	PhD, 2010, IUB
Han, Mira (IU Bioinformatics, M Hahn)	PhD, 2011, IUB

Chen, I-Ping (U Melbourne, Australia, D Stuart-Fox)	MS, 2011, U Melbourne
Vergara, Daniela (IU EEB, C Lively)	PhD 2009-10, IUB
Robertson, Mark (IU EEB, ED Ketterson)	PhD, 2013, IUB
Ho, Winnie (IU EEB, GT Smith)	PhD, 2013, IUB
Reichard, Dustin (IU EEB, ED Ketterson)	PhD, 2013, IUB
Ramos, Gil (IU Anthropology, K Hunt)	PhD, 2014, IUB
Hardwick, Kayla (Univ of Idaho, E Rosenblum)	PhD, 2015, U Idaho
Cain, Patrick (Indiana State Univ, DK Hews)	PhD, 2012-13, Indiana State U
Petzold, Jakki (IU EEB, GT Smith)	PhD, 2012-14, IUB
Goldberg, Jay K. (IU EEB, L Delph)	PhD, 2015-17, IUB
Dingess, Kimberly (IU Anthropology, K Hunt)	PhD, 2010-12, IUB
Pruett, Jacob (Indiana State Univ, DK Hews)	PhD, 2017, Indiana State U
Simpson, Richard (ASU Animal Behavior, K McGraw)	PhD, 2018, ASU-Tempe
Jansen, Andrew (ASU Evolutionary Biology, N Franz)	PhD, 2019, ASU-Tempe
Anzaldo, Salvatore (ASU Evolutionary Biology, N Franz)	PhD, 2019, ASU-Tempe

Rotations by Graduate Students (Indiana University only):

Bleakley, Bronwyn Heather (2001-2003)  
 Martin, Julie (2002-2003)  
 Marín, Aurora (Fall 2003)  
 Gerlach, Nicki (Fall 2004)  
 Vital, Cuauhcihuatl (Fall 2003)  
 Nava, Saúl (Fall 2004)  
 Turner, Cameron (Fall 2004)  
 Ruiz, Mayté (Fall 2005)  
 Ho, Winnie (Fall 2005)  
 Miller, Samuel (Fall 2007)  
 Pinapati, Richard (Fall 2007; bioinformatics)  
 Campos, Stephanie (Fall 2012)  
 Goldberg, Jay K. (2015-2017)

### UNDERGRADUATE RESEARCH MENTORED

At **Arizona State University**, I have mentored **23 undergraduate student researchers**, including 11 who completed substantial projects of their own, and 6 who are members of underrepresented groups (African American, Latinx, Native American).

**2017** (4): Jennifer Flores (F), Morgan Herrmann (F), Lindsey Meyer (F), Alicia Flores (F)

**2018** (10): Jennifer Flores (Sp, Summer), Morgan Herrmann (SOLUR, Sp, Summer, F), Alicia Flores (Sp), Meaghan Calendo (Sp), Yahya Mohamad (Sp, Summer, F), Eli Cotti (Summer, F), Madison Smith (Summer), Andreanna Schultz (Summer), Laura Mirtich (F), Collin Hickey (F)

**2019** (8): Morgan Herrmann (Sp, senior thesis), Eli Cotti (Sp), Laura Mirtich (Sp, Summer), Collin Hickey (Sp), Brontë Ellsworth (Sp, F), Hafsa Omar (Summer, F), Haleigh Boulanger (Summer), Alexander Huang (Summer, F, honors thesis)

**2020** (8): Brontë Ellsworth (Sp + Summer), Alexander Huang (Sp + Summer, honors thesis), Ben Robinson (Sp, Summer), Alyssa Tufarelli (F, 4+1), Georgie Puffer (F), Lauren Mestas (F), Ashley Ronnebaum (F), Luisa Zamora Chavez (F)

**2021**: Lauren Mestas (Sp), Abigail Taylor (Sp), Alyssa Tufarelli (Sp, 4+1), Georgie Puffer (Sp, honors thesis), Ashley Ronnebaum (Sp, 4+1), Luisa Zamora Chavez (Sp)

At **Indiana University**, I mentored 5-20 undergraduate student researchers each year (total ~ 170), including 55 who were in special programs and completed a substantial project of their own, and 30 who are members of underrepresented groups (African American, Latinx, Native American). These are:

- 2001: Katy Gonzales (CISAB-REU)  
 2002: Erin French (WISP), Meisha Walker (Medic-B), Jorge Cruz (CISAB-REU)  
 2003: Stephanie Frank (CISAB-REU), Valeni Jones (CISAB-REU)  
 2004: Jessica Rodriguez (CISAB-REU), Henok Solomon (Medic-B)  
 2005: Awilda Acaron (CISAB-REU), Brian Smith (CISAB-REU), Padric Anderson (HHMI capstone)  
 2006: Candice Clark (HHMI capstone & senior thesis), Mirela Conway (CISAB-REU), Erica Davis (CISAB-REU)  
 2007: Vani Joshi (L490), Rory McGuigan (IFLE), Shawne Buerkle (CISAB-REU), Melissa Greulich (CISAB-REU)  
 2008: Vanessa Christie (L490), Jason Weedman (HHMI capstone), Danfeng Wang (HHMI Capstone), Lorna Moreno (CISAB-REU), Cassandra Waldman (CISAB-REU), Christopher Long (L490)  
 2009: Danfeng Wang (CISAB-REU), Rosie Hite (CISAB-REU), Lore McBroom (CISAB-REU), Delawrence Sykes (HBCU-STEM), Elizabeth Reinke (L490)  
 2010: Rosie Hite (L490)  
 2011: José Oyola Morales (CISAB-REU), Joe Welkin (senior honors thesis committee member)  
 2012: Isabel Rojas-Ferrer (CISAB-REU), Brittany Price (CISAB-REU), Kuwade Huey-Robinson (HBCU-STEM), Ashley Weber (Math-REU), Annie Murphy (Math-REU)  
 2013: Christen Salyer (sr honors thesis committee member), Leah Scherschel (sr honors thesis committee member), Karen Ocasio (CISAB-REU), Nicolas Berry (CISAB-REU), Christian King (L490)  
 2014: Chloe Strauss (L490), Zoe Austin (CISAB-REU), Meital Shachaf (IFLE), Lidya Worede (HBCU-STEM)  
 2015: Hannah Jarvis (L490), Idris Mohiuddin (L490), Alejandra Enriquez (CISAB-REU), Grace Blackwell (HBCU-STEM), Ian Chavez (Groups), Klayton Harmon (L490)  
 2016: LaPrince-Miller Smith (HBCU-STEM), Lyan Padilla Velez (CISAB-REU), Kelsey Smith (Groups)  
 2017: Samantha Couch, Brandon Crowley, Alec Iruri-Tucker

At the **University of Oregon**, I mentored 23 undergraduates including four who did special projects (three honors theses and one summer program participant).

### **OTHER TRAINING**

#### **Visiting K-12 Teachers & High School students:**

<u>Name</u>	<u>Home institution</u>	<u>Dates</u>
Bertram, Vickie	teacher, New Castle HS	2005, 8 wk Summer Research Institute
Soper, Deanna	teacher, Crowne Pointe HS	2005, 2 wk Summer Research Institute
Williams, Joyce	teacher, Indianapolis HS	2005, 2 wk Summer Research Institute
Soper, Deanna	teacher, Crowne Pointe HS	2006, 8 wk research experience funded by NSF supplement to IOB0543491
Daniels, Kathleen	teacher, New Castle HS	2006, 8 wk Summer Research Institute
Daniels, Kathleen	teacher, New Castle HS	2007, 8 wk research experience funded by NSF supplement to IOB0453403
Fuson, Mary Jo	teacher, Bloomington North HS	2007, 2 wk Summer Research Institute
Skilbred, Christie	teacher, Edgewood HS	2007, 2 wk Summer Research Institute
Curry, Barbara	teacher, Aurora HS	2007, 2 wk Summer Research Institute
Carol Carter	teacher, Clear Creek Elem.	2010, 8 wk research experience funded by NSF supplement to IOB-0851607
Carol Carter	teacher, Clear Creek Elem.	2011, 3 wk research experience funded by NSF supplement to IOB-0851607
Carol Carter	teacher, Clear Creek Elem.	2014, 3 wk research experience funded by NSF supplement to IOB-1257562
Carol Carter	teacher, Clear Creek Elem.	2016-17, 4 wk research experience funded NSF supplement to IOB-1257562

Jenaya Hooks	student, Indianapolis Tech HS	2008, Lilly Scholar
Chido Moyo	student, Indianapolis Central HS	2008, Lilly Scholar
Camilla Brewer	student, Oak Park HS IL	2008, Lilly Scholar
Laura Engram	student, Crispus Attucks HS, IN	2009, Lilly Scholar
Sylvia Jang	student, Signature School, IN	2009, Lilly Scholar
Katherine Rivera	student, Phillips Academy	2009, Lilly Scholar
Aaron Fowler	student, Michigan City HS	2010, Lilly Scholar
Bryce Rainey	student, Indianapolis N Cent HS	2010, Lilly Scholar
Hannah Fox-Teague	student, Indianapolis HS	2013, Holland Scholar
Roger Morris	student, Bloomington HS N	2014-15, year-long researcher
Alec Iruri-Tucker	student, Bloomington HS N	Sp 2015 researcher
Ally Pauly	student, Bloomington HS S	Summer 2016 researcher
Cassidy Gavin	student, Red Mountain HS	2018-19, year-long researcher
Brooke Stratman	student, Dobson HS	2018-19, year-long researcher

### **Visiting Scholars:**

<u>Name</u>	<u>Home institution</u>	<u>Dates</u>
Diniz-Filho, Jose Alexandre	Federal U of Brazil (faculty visitor)	1998
Halloy, Monique	Fundación Lillo, Argentina (faculty visitor)	1999, 2000
Hansen, Thomas	U Oslo, Norway (grad visitor)	1995-1996
Housworth, Elizabeth	U Oregon, Mathematics (faculty visitor)	2000-2001
Labra, Antonieta	U Chile (grad visitor)	1996, 1999, 2000
Molina, Miguel	U Tenerife, Canary Islands (faculty visitor)	1998
Zamora-Abrego, J. Gastón	UNAM, Mexico (grad Student)	2007
Zúñiga-Vega, José Jaime	UNAM, Mexico (faculty visitor)	2011, 2015-16, 2020
Suarez Rodríguez, Monserrat	UNAM, Mexico (grad visitor)	2015-16
Hews, Diana	Indiana State U (faculty visitor)	2018

### **MEETING ORGANIZER**

2001	Organizer of symposium on “Evolution of social and sexual behavior” at the annual meeting of SACNAS (Society for the Advancement of Chicanos and Native Americans in Science)
2002	Co-organizer of annual meetings of the Animal Behavior Society (July 13-18, 2002, with Meredith West). Attendance = 600.
2002-03	Co-organizer of two NSF-sponsored workshops on “EthoSource and Behavioral Informatics” (April 2002 in Bloomington IN, February 2003 in Ithaca NY, with Anne Clark).
2004-05	Co-organizer of joint symposium between IU Center for the Integrative Study of Animal Behavior, NC State Keck Center for Behavioral Biology, and Atlanta’s Center for Behavioral Neuroscience (not funded, and so not hosted yet)
2008-2011	Organizer of Behavior 2011, the joint meeting of the International Ethological Conference and the Animal Behavior Society in 2011. Attendance = 1200.
2017	Organizer of symposium on "Predicting Behavior" at the annual meeting of the Animal Behavior Society (June 13-18) Toronto, Canada.
2018	Director of the "Weaving the Future of Animal Behavior" initiative which combines professional-development workshops with symposia highlighting the research of early-career scientists. This is a partnership with the Animal Behavior Society and the NSF.
2019-2020	Co-Director and Director of three “Weaving the Future of Animal Behavior” professional development workshops. The inaugural workshop was in May 2019 in Phoenix AZ; the second workshop was at the ABS/IEC meetings in July 2019 in Chicago IL. The final workshop is at the ABS meetings in July 2020 at the Univ of Tennessee, Knoxville.

**PROFESSIONAL OFFICES**

- 1990-1997 Member of Animal Behavior Society Professional Ethics Committee  
 1994-1997 Assistant Program Officer of Animal Behavior Society  
 1996 Allee Award Judge of Animal Behavior Society  
 1997 Member of Nominations Committee for Society for the Study of Amphibians and Reptiles  
 1998-2001 Elected Program Officer of the Animal Behavior Society  
 2002 Chair, Young Investigator Awards of the American Society of Naturalists  
 1999-present Member of International Union for Conservation of Nature and Natural Resources (IUCN) Species Survival Commission (SSC) Iguana Specialist Group  
 2001-2003 Elected Councilor of the Society for the Study of Evolution  
 2001-2003 Co-director of Animal Behavior Society Central Office  
 2001-2013 Member of Diversity Committee of Animal Behavior Society  
 2002-2003 Elected member of American Institute of Biological Sciences working group on Infrastructure for Biology at Regional to Continental Scales (IBRCS)  
 2003 Member, Nominations Committee for Society of Systematic Biology  
 2004 IU Liaison, Animal Behavior Society Central Office  
 2004-2005 Interim Director, EthoSource Advisory Board  
 2004-2006 Member, Senior Advisory Board of the National Science Foundation's "National Evolutionary Synthesis Center" in North Carolina  
 2004-2012 Member, EthoSource Executive and Advisory Boards  
 2013-2017 Second-President-Elect, President-Elect, President, Past-President and member of Executive Committee of Animal Behavior Society

**GRANT AND FUNDING REVIEW PANELS**

- 1997-2000 NSF Panel member (4 panels served including Animal Behavior, Ecological & Evolutionary Physiology, and Undergraduate Mentoring in Biology)  
 2001-03 NSF Panel member (4 panels served, 7 declined: Animal Behavior, DEB Committee of Visitors, Ecological & Evolutionary Physiology, Frontiers in Integrative Biology, Information Technology Research, Population Biology)  
 2004-09 NSF Panel member (4 panels served, 7 declined: Animal Behavior, Systematic Biology, CAREER program focus group, Biological Databases and Informatics, Assembling the Tree of Life, Advances in Biological Informatics)  
 NIGMS Panel member (Behavior and Biomedical Interface Training Grants)  
 Declined three times: Norman Hackerman Advanced Research Program (Texas)  
 Declined service on Animal Behavior Society Research Grant panel  
 2010-11 NSF Panel member (1 panel served, 5 declined: Animal Behavior, Doctoral Dissertation Improvement Grants, REU, Biological Databases, Systematics)  
 Declined service on Animal Behavior Society Research Grant panel  
 2011-12 NSF Panel member (4 panel invitations declined: Advances in Biological Informatics, Animal Behavior, REU, Software Infrastructure for Sustained Innovation)  
 Declined service on Canada Foundation for Innovation panel  
 2012 NSF Panel member (2 panel invitations declined: Advances in Biological Informatics, Animal Behavior)  
 Society for the Study of Amphibians and Reptiles Grants-In-Aid panel member  
 2013 NSF Panel member (1 panel served: Postdocs in Biology)  
 2014 Animal Behavior Society Allee Award committee chair  
 2015 NSF Panel member (1 panel served, 3 panel invitations declined: Advances in Biological Informatics, Animal Behavior, Systematics, Postdoctoral Fellowships in Biology)

2015-17 served as rotating NSF Program Officer for IOS-Animal Behavior program (soliciting reviews, organizing and running panels, making decisions, etc.)

### EDITORIAL BOARDS

1996-2001 Editorial board member for *Systematic Biology* journal  
 1997-2000 Associate Editor for *Evolution* journal  
 2004 Declined service as Editorial Board member for *Molecular Biology and Evolution*  
 2005-2008 Editor, *Animal Behaviour* journal  
 2006-2008 Editorial Board (B-side) member for *Proceedings of the Royal Society of London B: Biological Sciences*  
 2006-2009 Editorial Board for *American Naturalist* journal  
 2007 Declined Editorial Board of *Research Letters in Ecology* on-line journal  
 2008 Declined service as a Section Editor for an *Encyclopedia of Animal Behavior*. (Mike Breed and Janice Moore, eds.); Declined Editorial board for International Journal of Ecology  
 2011 Declined service on Editorial Board of *Systematic Biology* journal  
 2019-20 Associate Editor for *Evolution* journal

### MANUSCRIPT & GRANT REVIEWER

1995-2000 Service as a reviewer for The American Naturalist, Animal Behaviour, Behavioral & Brain Sciences, Behavioral Ecology and Sociobiology, Biological Journal of the Linnean Society, Biometrika, Copeia, Ecology, Ecology Letters, Ethology, Evolution, Genetics, Herpetologica, Journal of Comparative Psychology, Journal of Herpetology, Journal of Theoretical Biology, Physiological and Biochemical Zoology, Proceedings of the Royal Society of London, Science, SystematicBiology, Oxford University Press and the NSF.

2001-2005 Service as a reviewer for American Naturalist, Animal Behaviour, Applied Animal Behavior Sciences, Behaviour, Behavioral Ecology, Behavioral Ecology & Sociobiology, Biological Journal of the Linnean Society, Biosystems, Canada Council for the Arts, Canadian Journal of Zoology, Caribbean Journal of Science, Copeia, Ethology, Evolution, Evolutionary Ecology, Geology, Herpetologica, Herpetological Natural History, International Journal of Plant Sciences, Journal of Comparative Psychology, Molecular Phylogenetics & Evolution, Nature, National Geographic Society, National Science Foundation, New Phytologist, Palaeontologia Electronica, Physiological and Biochemical Zoology, PLoS Biology, Proceedings of the Royal Society of London, South African National Research Foundation, Systematic Biology, Trends in Ecology & Evolution, University of Chicago Press, Zoologica Scripta, and the NSF.

2006-2009 Service as a reviewer for Acta Zoologica Sinica, American Naturalist, Animal Behaviour, Behavioral Brain Research, Behavioral Ecology, Behavioral Ecology and Sociobiology, Behaviour, Bioinformatics, Biological Journal of the Linnean Society, Cambridge University Press, Caribbean Journal of Science, Diversity, Diversity and Distributions, Encyclopedia of Applied Animal Behaviour & Welfare, Environmetrics, Ethology, Evolution, Evolutionary Ecology, Genome Research, Herpetological Journal, Journal of Comparative Psychology, Journal of Herpetology, Journal of Zoological and Systematic Research, Nature, Naturwissenschaften, NERC, Open Zoology Journal, Oxford University Press, PLoS Biology, PLoS ONE, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society of London B, South American Journal of Herpetology, Systematic Biology, Zoological Journal of the Linnean Society, and the NSF.

2010-2015 Service as a reviewer for Advances in Physiology Education, American Naturalist, Animal Behaviour, Behaviour, Behavioral Ecology, Behavioral Ecology & Sociobiology, Behavioural Brain Research, Biological Journal of the Linnean Society, BMC Evolutionary Biology, Canada Foundation for Innovation, Comprehensive Physiology, Ethology, Evolution, Genes Brain and Behavior, Functional Ecology, Herpetological Conservation & Biology, Grants

- for Women In Science, Herpetological Review, IUCN, Journal of Animal Ecology, Journal of Chemical Ecology, Journal of Comparative Physiology A, Journal of Comparative Psychology, Journal of Evolutionary Biology, Journal of Fish Biology, Journal of Visualized Experiments, Journal of Zoology, MIT press, Naturwissenschaften, Phyllomedusa, PLOS One, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society of London B, Science, Systematic Biology, Texas Higher Education, Zebrafish Neurobehavioral Protocols, and the NSF.
- 2016 Service as a reviewer for Animal Behaviour, Austrian Science Fund, BMC Evolution Biology, Computer Methods & Programs in Biomedicine, Ethology, Evolution, Journal of Evolutionary Biology, Journal of Zoological Systematics, Journal of Zoology, MIT Press, NIH/CSR, Northwestern Journal of Zoology, Oecologia, PLOS One, Quarterly Review of Biology, Science, Royal Society Open Science.
- 2017 Service as a reviewer for Amphibia-Reptilia, Animal Behaviour (2), BMC Genomics, Biological Journal of the Linnean Society, Functional Ecology, PeerJ, PNAS (Editor), Royal Society Open Science, Journal of Science Medicine, PLoSOne (3), Zebrafish, Current Zoology, Nature, and the NSF
- 2018 Service as a reviewer for American Naturalist, Amphibia-Reptilia, Animal Behavior (2), Animals, Biological J Linnean Society, BMC Genomics, Current Zoology, Evolutionary Bioinformatics, Herpetological J, J Mathematical Biology, J Zoological Systematics & Evolutionary Research, Methods in Ecology & Evolution, Nature Ecology & Evolution, Nature Scientific Reports, PeerJ, PLoSOne (2), PNAS, Progress in Neuropsychopharmacology & Biological Psychiatry, Royal Society Open Science, Science, and the NSF.
- 2019 Animal Behaviour, Herpetological J, Nature Ecology & Evolution (2), Behavioural Processes (2), Disease Models & Mechanisms, Frontiers Ecology & Evolution, Evolution, iScience, American Naturalist, Scientific Reports, Herpetologica, Proceedings of the Royal Society of London B, Behavioral Ecology & Sociobiology, Biology Open, and the NSF

#### **OTHER PROFESSIONAL ACTIVITIES**

- 2000 Participant in NSF-supported advisory workshop on Phyloinformatics (Building the Tree of Life), UC Davis
- 2001 Participant in NSF-supported advisory workshop on Evolutionary Synthesis Center
- 2002 Evaluation of tenure/promotion cases (1)
- 2003 Participant in NSF-supported advisory workshop on Mathematical approaches to Systems Biology.  
Declined participation in NSF- Committee of Visitors to review the activities of the Division of Environmental Biology
- 2004 Evaluation of tenure/promotion cases (2)  
Research presentation at Jackson Creek Middle School
- 2005 Evaluation of tenure/promotion cases (1)
- 2006 Evaluation of tenure/promotion cases (5),
- 2007 Evaluation of tenure/promotion cases (2),  
Declined participation in NSF workshop on Motor Pattern Evolution.  
Chair, Bucknell University Animal Behavior Program external review committee  
Participation in NSF- REU Director's workshop  
Declined participation in NESCent workshop (Hackathon) on Comparative Methods in R.
- 2008 Evaluation of tenure/promotion cases (1),  
Declined participation in NESCent external review.
- 2009 Evaluation of tenure/promotion cases (1),  
Member and workshop participant, EthoSource Advisory Board
- 2010 Evaluation of tenure/promotion cases (2),  
Member and workshop participant, EthoSource Advisory Board
- 2011 Evaluation of tenure/promotion cases (1),

- Member and workshop participant, EthoSource Advisory Board  
Participation in NESCent workshop on “Integrative models of vertebrate sociality”  
Participation in NSF workshop on “Broadening Participation”, representing Animal Behavior Society
- 2012 Evaluation of tenure/promotion cases (4)  
Participation in NESCent workshop on “Integrative models of vertebrate sociality”  
Participation in NSF workshop on “Broadening Participation”, representing Animal Behavior Society (wrote NSF grant proposal that was not funded)
- 2014 Evaluation of faculty tenure/promotion/award cases (4)
- 2015 Evaluation of faculty tenure/promotion/award cases (2)
- 2016 Evaluation of faculty tenure/promotion/award cases (2)
- 2017 Evaluation of faculty tenure/promotion/award cases (2)
- 2018 Evaluation of abstracts for the International Society of Behavioral Ecology (ISBE) conference
- 2019 Evaluation of travel award proposals for the ABRCMS conference, ABRCMS judge,  
Evaluation of faculty tenure/promotion/award cases (3)
- 2015-20 Collaboration with artist Carla Bengtson (Univ of Oregon) on several art pieces related to our lizard communication research, including a perfume, video and motion exhibits. “Every Word Was Once an Animal”.
- 2020 ABRCMS poster judge, SACNAS poster judge, AISES poster judge. Our zebrafish work was highlighted by Nature Lab Research (Oct 15 2020): <https://www.nature.com/articles/s41684-020-00665-z>