

David W. Pfennig

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Synopsis

My research and teaching interests and expertise lie at the intersection of evolutionary biology, ecology, and developmental biology. I specifically study how organisms assess and respond to environmental change and how doing so impacts evolution, ecology, and health. This work combines field studies of natural populations with lab-based experiments and genetic analyses. Additionally, I enjoy communicating science to others and actively engage in public outreach.

Education

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| 2018 | Center for Creative Leadership, Greensboro, NC |
| 1991-1993 | NSF Postdoctoral Fellow, Cornell University (with P. W. Sherman) |
| 1990-1991 | Center for Insect Science Postdoctoral Fellow, University of Arizona |
| 1989-1990 | Maytag Postdoctoral Fellow, Arizona State University (with J. P. Collins) |
| 1989 | University of Texas at Austin, Ph.D. in Zoology (with J. J. Bull & M. Kirkpatrick) |
| 1982 | University of Texas at San Antonio, M.S. in Biology (with G. J. Gamboa) |
| 1979 | University of Texas at Austin, B.S. in Zoology |
| 1979 | University of Texas at Austin, B.S. in Geology |

Professional Experience

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| 2012-2015 | Caroline & Thomas Royster Distinguished Professor for Graduate Education, Dept. of Biology, University of North Carolina (UNC) |
| 2012-2015 | Director, Royster Society of Fellows, The Graduate School, UNC |
| 2007-2012 | Zachary Taylor Smith Distinguished Professor for Excellence in Undergraduate Education, Dept. of Biology, UNC |
| 2007 | Visiting Scholar, National Evolutionary Synthesis Center, Duke University |
| 2004-present | Professor, Dept. of Biology, UNC |
| 2003-2012 | Co-director of Graduate Studies, Dept. of Biology, UNC |

- 1999-2004 Associate Professor, Dept. of Biology, UNC
- 1996-1999 Assistant Professor, Dept. of Biology, UNC
- 1993-1996 Assistant Professor, Dept. of Ecology, Ethology, and Evolution, University of Illinois at Urbana-Champaign
- 1980-1985 Senior Research Associate, Dept. of Genetics, Southwest Foundation for Biomedical Research, San Antonio, TX

Honors (selected)

- 2020-2022 Distinguished Lecturer, Sigma Xi, The Scientific Research Honor Society
- 2018-2019 Fellow, Academic Leadership Program, Institute for Arts and Humanities, UNC
- 2012-2015 Caroline H. & Thomas S. Royster Distinguished Term Professorship for Graduate Education, UNC
- 2007-2012 Zachary Taylor Smith Distinguished Term Professorship for Excellence in Undergraduate Education, UNC
- 2000 Hettleman Prize for Artistic and Scholarly Achievement, UNC
- 1996 Pitelka Award, International Society for Behavioral Ecology
- 1993 Beckman Award for Outstanding Research Promise, University of Illinois
- 1989 Gaige Award, American Society of Ichthyologists and Herpetologists

Publications

(*High school student or Undergraduate co-author; †Graduate student co-author; ‡Postdoc co-author
 PDFs of most articles can be downloaded at: <https://www.davidpfenniglab.com/publications/>)

Books:

- xxx. Gilbert, S. F. and Pfennig, D. W. *Ecological and Evolutionary Developmental Biology: Concepts and Applications*. Oxford University Press (under contract).
150. Pfennig, D. W. (ed.). 2021. *Phenotypic Plasticity & Evolution: Causes, Consequences, Controversies*. CRC Press. Boca Raton, FL. 404 pp. (open access)
 (Listed as "Essential Reading" by Choice)
 (Listed as "The Best Science Reference for 2021" by Taylor & Francis)
149. Pfennig, D. W. and Pfennig, K. S. 2012. *Evolution's Wedge: Competition and the Origins of Diversity*. University of California Press. Berkeley, CA. 303 pp.

Journal Articles (peer-reviewed):

148. Levis[†], N. A., McKay, D. J., and Pfennig, D. W. Disentangling the developmental origins of a novel phenotype: enhancement versus reversal of environmentally induced gene expression. *Proceedings of the Royal Society B: Biological Sciences*. (in press)
147. Levis[†], N. A., Kelly[†], P. W., Harmon[†], E. A., Ehrenreich, I. M., McKay, D. J., and Pfennig, D. W. 2021. Transcriptomic bases of a polyphenism. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*. 336:482–485.
146. Harmon[†], E. A. and D. W. Pfennig. 2021. Evolutionary rescue via transgenerational plasticity: evidence and implications for conservation. *Evolution and Development* 23:292–307.
145. Kelly[†], P. W., Pfennig, D. W., and Pfennig, K. S. 2021. Adaptive plasticity as a fitness benefit of mate choice. *Trends in Ecology & Evolution* 36: 294–307.
144. Kelly[†], P. W., Pfennig, D. W., and Pfennig, K. S. 2021. A condition-dependent male sexual signal predicts adaptive predator-induced plasticity in offspring. *Behavioral Ecology and Sociobiology* 75: 28.
143. Allf^{*}, B., Sparkman, A., and Pfennig, D. W. 2021. Microevolutionary change in mimicry? Potential erosion of rattling behaviour among nonvenomous snakes on islands lacking rattlesnakes. *Ethology Ecology & Evolution* 33: 125–136.
142. de la Serna Buzón[†], S., Martin, R. A., and Pfennig, D. W. 2020. Carryover effects and the evolution of polyphenism. *Biological Journal of the Linnean Society* 131: 622–631.
141. Levis[†], N. A., Reed[†], E. M. X., Pfennig, D. W., Burford Reiskind, M. O. 2020. Identification of candidate loci for adaptive phenotypic plasticity in natural populations of spadefoot toads. *Ecology and Evolution* 10: 8976–8988.
(highlighted in a feature article in *New Scientist* (“Evolution is evolving: 13 ways we must rethink the theory of nature” pp. 38-49, Sept. 26, 2020, <https://www.newscientist.com/article/mg24733010-800-evolution-is-evolving-13-ways-we-must-rethink-the-theory-of-nature/#ixzz6aO4qvqly>)
140. Levis[†], N. A., Fuller^{*}, C, and Pfennig, D. W. 2020. An experimental investigation of how intraspecific competition and phenotypic plasticity can promote the evolution of novel, complex phenotypes. *Biological Journal of the Linnean Society* 131: 76–87.
139. Pfennig^{*}, K. S. and Pfennig, D. W. 2020. Dead spadefoot tadpoles adaptively modify development in future generations: a novel form of nongenetic inheritance? *Copeia* 108: 116-121.

138. Levis[†], N. A. and Pfennig, D. W. 2020. Plasticity-led evolution: a survey of developmental mechanisms and empirical tests. *Evolution and Development* 22: 71–77.
(Among the journal's 10 most downloaded papers)
137. Seidl[†], F., Levis[†], N. A., Schell[†], R., Pfennig, D. W., Pfennig, K. S., and Ehrenreich, I. M. 2019. Genome of *Spea multiplicata*, a rapidly developing, phenotypically plastic, and desert-adapted spadefoot toad. *G3: Genes, Genomes, Genetics* 9: 3909–3919.
136. Akcali[†], C. K., Perez-Mendoza, H. A., Kikuchi, D. W., and Pfennig, D. W. 2019. Multiple models generate a geographical mosaic of resemblance in a Batesian mimicry complex. *Proceedings of the Royal Society B: Biological Sciences* 286: 20191519.
135. Levis[†], N. A. and Pfennig, D. W. 2019. How stabilizing selection and nongenetic inheritance combine to shape the evolution of phenotypic plasticity. *Journal of Evolutionary Biology* 32: 706–716.
134. Levis[†], N. A. and Pfennig, D. W. 2019. Plasticity-led evolution: evaluating the key prediction of frequency-dependent adaptation. *Proceedings of the Royal Society B: Biological Sciences* 286: 20182754.
(Recommended by Faculty Opinions [nee Faculty of 1000], 27 Feb 2019)
133. Akcali[†], C. K., Adán Pérez-Mendoza, H., Salazar-Valenzuela, D., Kikuchi, D. W., Guayasamin, J. M., and Pfennig, D. W. 2019. Evaluating the utility of camera traps in field studies of predation. *PeerJ* 7:e6487.
132. Kelly[†], P. W., Pfennig, D. W., de la Serna Buzón[†], S., and Pfennig, K. S. 2019. Male sexual signals predict phenotypic plasticity in offspring: implications for the evolution of plasticity and local adaptation. *Philosophical Transactions of the Royal Society B: Biological Sciences* 374: 20180179.
(Invited peer-reviewed contribution to special theme issue “The role of plasticity in phenotypic adaptation to rapid environmental change”)
131. Levis[†], N. A. and Pfennig, D. W. 2019. Phenotypic plasticity, canalization, and the origins of novelty: evidence and mechanisms from amphibians. *Seminars in Cell and Developmental Biology* 88: 80–90.
(Invited peer-reviewed contribution to special theme issue “Canalization”)
130. Levis[†], N. A., Isdaner^{*}, A., and Pfennig, D. W. 2018. Morphological novelty emerges from pre-existing phenotypic plasticity. *Nature Ecology and Evolution* 2:1289–1297.

(Highlighted in a feature article in *Science* ("Buying time" vol. 362 (6418), pp. 988-991, Nov. 30, 2018, <http://science.sciencemag.org/content/362/6418/988>)

(Recommended by Faculty Opinions [nee Faculty of 1000], Aug. 9, 2018)

129. Levis[†], N. A. and Pfennig, D. W. 2018. Evolution of phenotypic plasticity and gene expression during character displacement. *eLS* <http://www.els.net> (<https://doi.org/10.1002/9780470015902.a0028159>)
(Invited peer-reviewed contribution)
128. Akcali[†], C. K., Kikuchi, D. W., Pfennig, D. W. 2018. Coevolutionary arms races in Batesian mimicry? A test of the chase-away hypothesis. *Biological Journal of the Linnean Society* 124: 668–676.
127. Levis[†], N. A., Martin, R. A., O'Donnell^{*}, K. A., and Pfennig, D. W. 2017. Intraspecific adaptive radiation: competition, ecological opportunity, and phenotypic diversification within species. *Evolution* 71: 2496–2509.
126. Levis[†], N. A., Serrato-Capuchina[†], A. and Pfennig, D. W. 2017. Genetic accommodation in the wild: evolution of gene expression plasticity during character displacement. *Journal of Evolutionary Biology* 30: 1712–1723.
125. Bono[†], L. M., Smith^{*}, L. B., Pfennig, D. W., and Burch, C. L. 2017. The emergence of trade-offs during local adaptation: insights from experimental evolution. *Molecular Ecology* 26: 1720–1733.
124. Akcali[†], C. and Pfennig, D. W. 2017. Geographic variation in mimetic precision among different species of coral snake mimics. *Journal of Evolutionary Biology* 30: 1420–1428.
123. Allif^{*}, B. C., Durst[‡], P. A. D., and Pfennig, D. W. 2016. Behavioral plasticity and the origins of novelty: the evolution of the rattlesnake rattle. *The American Naturalist* 188: 475–483.

(Highlighted on *The New Scientist's* webpage ("Rattlesnakes silently shook their tails before evolving rattles" <https://www.newscientist.com/article/2106162-rattlesnakes-silently-shook-their-tails-before-evolving-rattles/>, September 16, 2016))

(Highlighted on *ScienceNews's* webpage ("Tail vibrations may have preceded evolution of rattlesnake rattle" <https://www.sciencenews.org/blog/wild-things/tail-vibrations-may-have-preceded-evolution-rattlesnake-rattle>, August 31, 2016))

(Highlighted on *The Planet Experts's* webpage ("Which Came First: The Rattle or the Rattling?" <http://www.planetexperts.com/came-first-rattle-rattling/>, August 18, 2016))

122. Levis[†], N. A. and Pfennig, D. W. 2016. Evaluating ‘plasticity-first’ evolution in nature: key criteria and empirical approaches. *Trends in Ecology and Evolution* 31:563–574.
 (“Highly cited paper” by Web of Science [“received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year”])
121. Ehrenreich, I. M. and Pfennig, D. W. 2016. Genetic assimilation: a review of its potential proximate causes and evolutionary consequences. *Annals of Botany* 117: 769–779.
120. Bono[†], L. M., Gensel*, C. L., Pfennig, D. W., and Burch, C. L. 2015. Evolutionary rescue and the coexistence of generalist and specialist competitors: an experimental test. *Proceedings of the Royal Society B: Biological Sciences* 282: 20151932.
119. Pfennig, K. S., Pfennig, D. W., Porter[†], C., and Martin, R. A. 2015. Sexual selection’s impacts on ecological specialisation: an experimental test. *Proceedings of the Royal Society B: Biological Sciences* 282: 20150217.
118. Murren, C. J., Auld, J. R., Callahan, H. S., Ghalambor, C. K., Handelsman[†], C. A., Heskell[†], M. A., Kingsolver, J. G., Maclean[†], H. J., Masel, J., Maughan, H., Pfennig, D. W., Relyea, R. A., Seiter, S., Snell-Rood, E., Steiner, U. K., and Schlichting, C. D. 2015. Constraints on the evolution of phenotypic plasticity: limits and costs of phenotype and plasticity. *Heredity* 115: 293–301.
117. Levis[†], N. A., de la Serna Buzon[†], S., and Pfennig, D. W. 2015. An inducible offense: carnivore morph tadpoles induced by tadpole carnivory. *Ecology and Evolution* 5: 1405–1411.
116. Pfennig, D. W., Akcali[†], C., and Kikuchi, D. W. 2015. Batesian mimicry promotes pre- and post-mating isolation in a snake mimicry complex. *Evolution* 69: 1085–1090.
115. Pfennig, D. W. and Ehrenreich, I. M. 2014. Toward a gene regulatory network perspective on phenotypic plasticity, genetic accommodation, and genetic assimilation. *Molecular Ecology* 23: 4438–4440.
114. Ledón-Rettig, C. C., Pfennig, D. W., Chunco, A. J., and Dworkin, I. 2014. Cryptic genetic variation in natural populations: a predictive framework. *Integrative and Comparative Biology* 54: 783–793.
113. Akcali[†], C. K. and Pfennig, D. W. 2014. Rapid evolution of mimicry following local model extinction. *Biology Letters* 10: 20140304.
 (Featured on the cover of the journal)
 (Highlighted on PBS’s NOVA webpage (“How the Kingsnake Is Still Fooling Predators into Thinking It’s Poisonous”
<http://www.pbs.org/wgbh/nova/next/evolution/mimicry-evolutionary-momentum/> Aug. 6, 2014)

(Highlighted on *Mental Floss* ("Extinct snake lead to better fakes"
<http://mentalfloss.com/article/57327/extinct-snakes-lead-better-fakes>, June 18, 2014)

(Highlighted on *The Scientist's* webpage ("Snake imitators persist"
<http://www.the-scientist.com/?articles.view/articleNo/40199/title/Snake-Imitators-Persist>/June 15, 2014))

(Highlighted on *IFL Science!* ("Scarlet kingsnake still mimics extinct venomous species"
<http://www.iflscience.com/plants-and-animals/scarlet-kingsnake-still-mimics-extinct-venomous-species> June 12, 2014))

(Highlighted on *PHYS.org* ("Study finds mimicry increased in scarlet kingsnake after disappearance of coral snake"
<http://phys.org/news/2014-06-mimicry-scarlet-kingsnake-snake-coral.html>, June 12, 2014)

(Highlighted on *NBC New's* webpage ("Weird case of look-alike snakes surprises researchers"
<https://www.nbcnews.com/science/science-news/weird-case-look-alike-snakes-surprises-researchers-n12862>, June 11, 2014))

(Highlighted on *Nature's* webpage ("Snakes mimic extinct species to avoid predators"
<http://www.nature.com/news/snakes-mimic-extinct-species-to-avoid-predators-1.15397> June 11, 2014))

(Highlighted on *LiveScience* ("Weird case of look-alike snakes surprises researchers"
<http://www.livescience.com/46248-snake-mimics-surprise-researchers.html>, June 10, 2014))

112. Murren, C. J., Maclean[†], H. J., Diamond[†], S. E., Steiner, U. K., Heskell[†], M. A., Handelsman[†], C. A., Ghalambor, C. K., Auld, J. R., Callahan, H. S., Pfennig, D. W., Relyea, R. A., Schlichting, C. D., and Kingsolver, J. G. 2014. Evolutionary change in continuous reaction norms. *The American Naturalist* 183: 453–467.
111. Kikuchi[†], D. W., Seymoure[†], B. M., and Pfennig, D. W. 2014. Mimicry's palette: widespread use of conserved pigments in the aposematic signals of snakes. *Evolution and Development* 16: 61–67.

(Featured on the cover of the journal)
110. Titcombe^{*}, G. C., Kikuchi[†], D. W., and Pfennig, D. W. 2014. More than mimicry? Evaluating scope for flicker-fusion as a defensive strategy in coral snake mimics. *Current Zoology* 60: 123–130.
109. Kikuchi[†], D. W. and Pfennig, D. W. 2013. Imperfect mimicry and the limits of natural selection. *Quarterly Review of Biology* 88: 297–315.
108. Robinson, B. W. and Pfennig, D. W. 2013. Inducible competitors and diversification. *Current Zoology* 59: 537–552.
107. Pfennig, D. W. and Servedio, M. R. 2013. The role of transgenerational epigenetic inheritance in diversification and speciation. *Non-genetic Inheritance* 1:17–26.

106. Bono[†], L. M., Gensel*, C. L., Pfennig, D. W., and Burch, C. L. 2013. Competition and the origins of novelty: experimental evolution of host-range expansion in a virus. *Biology Letters* 9: 20120616.
(Recommended by Faculty of 1000, 21 Feb 2013)
(Highlighted on *Phenomena: A science salon hosted by National Geographic* magazine (“When competition is intense, viruses spill over into new hosts” <http://phenomena.nationalgeographic.com/2012/10/16/when-competition-is-intense-viruses-spill-over-into-new-hosts/>, October 16, 2012))
105. Paull[†], J. S., Martin[†], R. A., and Pfennig, D. W. 2012. Increased competition as a cost of specialization during the evolution of resource polymorphism. *Biological Journal of the Linnean Society* 107: 845–853.
104. Martin[†], R. A. and Pfennig, D. W. 2012. Widespread disruptive selection in the wild is associated with intense resource competition. *BMC Evolutionary Biology* 12:136.
103. Pfennig, D. W. and Kikuchi[†], D. W. 2012. Competition and the evolution of imperfect mimicry. *Current Zoology* 58: 607–618.
102. Kikuchi[†], D. W. and Pfennig, D. W. 2012. A Batesian mimic and its model share color production mechanisms. *Current Zoology* 58: 657–666.
101. Ledón-Rettig[†], C. and Pfennig, D. W. 2012. Antipredator behavior plasticity promotes diversification of feeding strategies. *Integrative and Comparative Biology* 52: 53–63.
100. Leichty[†], A., Pfennig, D. W., Jones, C. and Pfennig, K. S. 2012. Relaxed genetic constraint is ancestral to the evolution of phenotypic plasticity. *Integrative and Comparative Biology* 52:16–30.
99. Pfennig, D. W. and Pfennig, K. S. 2012. Development and evolution of character displacement. *Annals of the N.Y. Academy of Sciences (The Year in Evolutionary Biology)* 1256: 89–107.
98. Martin[†], R. A. and Pfennig, D. W. 2011. Evaluating the targets of selection during character displacement. *Evolution* 65: 2946–2958.
97. Moczek, A. P., Sultan, S., Foster, S., Ledón-Rettig[†], C., Dworkin, I., Nijhout, H. F., Abouheif, E., and Pfennig, D. W. 2011. The role of developmental plasticity in evolutionary innovation. *Proceedings of the Royal Society B: Biological Sciences* 278: 2705–2713.
(“Highly cited paper” by Web of Science [“received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year”])
96. Ledón-Rettig[†], C. and Pfennig, D. W. 2011. Emerging model systems in eco-evo-devo: the environmentally responsive spadefoot toad. *Evolution and Development* 13: 391–400.

95. Kikuchi[†], D. W. and Pfennig, D. W. 2010. Predator cognition permits imperfect coral snake mimicry. *The American Naturalist* 176: 830–834.
 (Highlighted in Chapter 5 (“A Spider in Ant’s Clothing”) of the book, *Cheats and Deceits: How Animals and Plants Exploit and Mislead*, by Martin Stevens, 2015)
 (Highlighted on ScienceNow (Science’s webpage) (“ScienceShot: Snakes Lie to Save Their Skin”, November 19, 2010))
94. Pfennig, D. W. and Pfennig, K. S. 2010. Character displacement and the origins of diversity. *The American Naturalist* 176: S26–S44.
 (Invited peer-reviewed contribution to special theme issue “Darwinian Thinking: 150 years after the “Origin””)
93. Ledón-Rettig[†], C., Pfennig, D. W., and Crespi, E. J. 2010. Diet and hormone manipulations reveal cryptic genetic variation: implications for the evolution of novel feeding strategies. *Proceedings of the Royal Society B: Biological Sciences* 277: 3569–3578.
 (Highlighted in *Nature* (“Evolutionary biology: meat-eating tadpoles”, July 1, 2010, vol. 466, page 11))
92. Pfennig, D. W. and Martin[†], R. A. 2010. Evolution of character displacement in spadefoot toads: different proximate mechanisms in different species. *Evolution* 64: 2331–2341.
 (Featured on the cover of the journal)
91. Pfennig, D. W. and Mullen, S. P. 2010. Mimics without models: causes and consequences of allopatry in Batesian mimicry. *Proceedings of the Royal Society B: Biological Sciences* 277: 2577–2585.
 (Featured on the cover of the journal)
90. Pfennig, D. W., Wund, M. A., Snell-Rood[‡], E. C., Cruickshank[†], T., Schlichting, C. D., and Moczek, A. P. 2010. Phenotypic plasticity’s impacts on diversification and speciation. *Trends in Ecology and Evolution* 25: 459–467.
 (“Highly cited paper” by Web of Science [“received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year”])
89. Martin[†], R. A. and Pfennig, D. W. 2010. Field and experimental evidence that competition and ecological opportunity promote resource polymorphism. *Biological Journal of the Linnean Society* 100: 73–88.
88. Rice[†], A. M. and Pfennig, D. W. 2010. Does character displacement initiate speciation? Evidence of reduced gene flow between populations experiencing divergent selection. *Journal of Evolutionary Biology* 23: 854–865.

87. Kikuchi[†], D. W. and Pfennig, D. W. 2010. High model abundance may permit the gradual evolution of Batesian mimicry: an experimental test. *Proceedings of the Royal Society B: Biological Sciences* 277:1041–1048.
86. Martin[†], R. A. and Pfennig, D. W. 2010. Maternal investment influences expression of resource polymorphism in amphibians: implications for the evolution of novel resource-use phenotypes. *PLoS One* 5(2): e9117.
(Highlighted on *The New Scientist's* Zoologger ("What turns a tadpole into a killer?", February 17, 2010))
85. Pfennig, D. W. and McGee*, M. 2010. Resource polyphenism increases species richness: a test of the hypothesis. *Philosophical Transactions of the Royal Society B: Biological Sciences* 365: 577–591.
84. Ledón-Rettig[†], C., Pfennig, D. W., and Crespi, E. J. 2009. Stress hormones and the fitness consequences associated with consuming a novel diet in larval amphibians. *Journal of Experimental Biology* 212: 3743–3750.
83. Rice[†], A. M., Leichty[†], A. R., and Pfennig, D. W. 2009. Parallel evolution and ecological selection: replicated character displacement in spadefoot toads. *Proceedings of the Royal Society B: Biological Sciences* 276: 4189–4196.
82. Martin[†], R. A. and Pfennig, D. W. 2009. Disruptive selection in natural populations: the roles of ecological specialization and resource competition. *The American Naturalist* 174: 268–281.
81. Pfennig, K. S. and Pfennig, D. W. 2009. Character displacement: ecological and reproductive responses to a common evolutionary problem. *Quarterly Review of Biology* 84: 253–276.
80. Pfennig, D. W. and Martin[†], R. A. 2009. A maternal effect mediates rapid population divergence and character displacement in spadefoot toads. *Evolution* 63: 898–909.
79. Rice[†], A. M. and Pfennig, D. W. 2008. Analysis of range expansion in two species undergoing character displacement: why might invaders generally "win" during character displacement? *Journal of Evolutionary Biology* 21: 696–704.
78. Ledón-Rettig[†], C., Pfennig, D. W., and Nascone-Yoder, N. 2008. Ancestral variation and the potential for genetic accommodation in larval amphibians: implications for the evolution of novel feeding strategies. *Evolution and Development* 10: 316–325.
77. Harper[†], G. R. Jr. and Pfennig, D. W. 2008. Selection overrides gene flow to break down maladaptive mimicry. *Nature* 451: 1103–1106.
(Highlighted in a textbook about evolution intended for the general reader, *The Tangled Bank* by Carl Zimmer, 2009)

(Highlighted in *Current Biology* ("Batesian mimicry: can a leopard change its spots – and get them back?", June 3, 2008, vol. 18, issue 11, pp. R476–R479))

(Recommended by Faculty of 1000, 14 March 2008)

76. Pfennig, D. W. and Rice[†], A. M. 2007. An experimental test of character displacement's role in promoting postmating isolation between conspecific populations in contrasting competitive environments. *Evolution* 61: 2433–2443.
75. Harper[†], G. R. Jr. and Pfennig, D. W. 2007. Mimicry on the edge: why do mimics vary in resemblance to their model in different parts of their geographical range? *Proceedings of the Royal Society B: Biological Sciences* 274: 1955–1961.

(Highlighted in Chapter 16 of the book, *Dazzled and Deceived: Mimicry and Camouflage*, by Peter Forbes, 2009)
74. Kingsolver, J. G. and Pfennig, D.W. 2007. Patterns and power of phenotypic selection in nature. *BioScience* 57: 561–572.
73. Pfennig, D. W., Rice[†], A. M., and Martin[†], R. A. 2007. Field and experimental evidence for competition's role in phenotypic divergence. *Evolution* 61: 257–271.
72. Rice[†], A. M. and Pfennig, D. W. 2007. Character displacement: *in situ* evolution of novel phenotypes or sorting of pre-existing variation? *Journal of Evolutionary Biology* 20: 448–459.
71. Pfennig, D. W., Harper[†], G. R. Jr., Brumo^{*}, A. F., Harcombe^{*}, W. R., and Pfennig, K. S. 2007. Population differences in predation on Batesian mimics in allopatry with their model: selection against mimics is strongest when they are common. *Behavioral Ecology and Sociobiology* 61: 505–511.
70. Pfennig, D. W., Rice[†], A. M., and Martin[†], R. A. 2006. Ecological opportunity and phenotypic plasticity interact to promote character displacement and species coexistence. *Ecology* 87: 769–779.
69. Pfennig, K. S. and Pfennig, D. W. 2005. Character displacement as the 'best of a bad situation': fitness trade-offs resulting from selection to minimize resource and mate competition. *Evolution* 59: 2200–2208.
68. Kingsolver, J. G. and Pfennig, D.W. 2004. Individual-level selection as a cause of Cope's rule of phyletic size increase. *Evolution* 58: 1608–1612.

(Highlighted in *Trends in Ecology and Evolution* ("The evolution of large size: how does Cope's Rule work?", January 2005, vol. 20, issue 1, pp. 4–6))
67. Bull, J. J., Pfennig, D. W., and Wang[†], I-N. 2004. Genetic details, optimization and phage life histories. *Trends in Ecology and Evolution* 19: 76–82.
66. Pfennig, D. W. and Murphy[‡], P. J. 2003. A test of alternative hypotheses for character divergence between coexisting species. *Ecology* 84: 1288–1297.

65. Reeve, H. K. and Pfennig, D. W. (equal-authored) 2003. Genetic biases for showy males: are some genetic systems especially conducive to sexual selection? *Proceedings of the National Academy of Sciences, USA* 100: 1089–1094.
64. Pfennig, D. W. and Murphy[‡], P. J. 2002. How fluctuating competition and phenotypic plasticity mediate species divergence. *Evolution* 56: 1217–1228.
(Highlighted on the *Scientific American Blog Network* (“North American spadefoot toads and their incredible fast-metamorphosing, polymorphic tadpoles”) <http://blogs.scientificamerican.com/tetrapod-zoology/2015/01/02/north-american-spadefoot-toads/>, January 2, 2015)
63. Kingsolver, J. G., Pfennig, D. W., and Servedio, M. R. 2002. Migration, local adaptation, and the evolution of plasticity. *Trends in Ecology and Evolution* 17: 540–541.
62. Frankino[‡], W. A. and Pfennig, D. W. 2001. Condition-dependent expression of trophic polyphenism: effects of individual size and competitive ability. *Evolutionary Ecology Research* 3: 939–951.
61. Pfennig, D. W., Harcombe^{*}, W. R., and Pfennig, K. S. 2001. Frequency-dependent Batesian mimicry. *Nature* 410: 323.
(Highlighted in Chapter 4 (“Life Imitates Life”) of the book, *Remarkable Creatures: Epic Adventures in the Origin of Species*, by Sean B. Carroll, 2009)
(Highlighted in Chapter 1 (“A Case Study of Scientific Inquiry”) of a major Biology text, *Campbell Biology*)
(Highlighted in *The 2002 Britannica Book of the Year* (p. 235))
(Highlighted in *Natural History* (“Snake Fakery,” June 2001, p. 18))
60. Pfennig, D. W. and Murphy[‡], P. J. 2000. Character displacement in polyphenic tadpoles. *Evolution* 54: 1738–1749.
59. Pfennig, D. W. 2000. Effect of predator-prey phylogenetic distance on the fitness consequences of predation: a tradeoff between nutrition and disease? *The American Naturalist* 155: 335–345.
58. Loeb[‡], M. L. G., Diene^{*}, L. and Pfennig, D. W. 2000. Egg dumping lace bugs preferentially oviposit with kin. *Animal Behaviour* 59: 379–383.
57. Pfennig, D. W., Collins, J. P., and Ziemba[‡], R.E. 1999. A test of alternative hypotheses for kin recognition in cannibalistic tiger salamanders. *Behavioral Ecology* 10: 436–443.
56. Pfennig, D. W. 1999. Cannibalistic tadpoles that pose the greatest threat to kin are most likely to discriminate kin. *Proceedings of the Royal Society B: Biological Sciences* 266: 57–61.
55. Hoffman[‡], E. A. and Pfennig, D. W. 1999. Proximate causes of cannibalistic polyphenism in larval tiger salamanders. *Ecology* 80: 1076–1080.

54. Pfennig, D. W., Ho*, S., and Hoffman†, E. A. 1998. Pathogen transmission as a selective force against cannibalism. *Animal Behaviour* 55: 1255–1261.
 (Highlighted in *National Geographic* (Earth Almanac: “Animal Cannibals: A Risky Diet,” April 1999))
 (Highlighted in *The Washington Post* (“Why Don’t We Eat Our Own Kind? They’d Bite Back; Cannibals May Risk Ingesting Deadly Germs, Study Finds”, August 31, 1998, p. A03))
 (Highlighted on ABC News web page (“Cannibalism Can Kill You,” July 1, 1998))
 (Highlighted on *Science’s* web page (Daily inSClght) (“Cannibal’s Risky Diet,” May 13, 1998))
 (Highlighted in *Science News* (“Why Aren’t There More Cannibals Around?”, May 9, 1998, p. 295))
53. Pfennig, D. W. and Frankino†, W. A. 1997. Kin-mediated morphogenesis in facultatively cannibalistic tadpoles. *Evolution* 51: 1993–1999.
52. Pfennig, D. W. 1997. Kinship and cannibalism. *BioScience* 47: 667–675.
51. Pfennig, D. W. 1995. Absence of joint nesting advantage in desert seed harvester ants: evidence from a field experiment. *Animal Behaviour* 49: 567–575.
50. Pfennig, D. W., Sherman, P. W., and Collins, J. P. 1994. Kin recognition and cannibalism in polyphenic salamanders. *Behavioral Ecology* 5: 225–232.
49. Pfennig, D. W. and Collins, J. P. 1993. Kinship affects morphogenesis in cannibalistic salamanders. *Nature* 362: 836–838.
 (Highlighted in *Trends in Ecology and Evolution* (“Cannibalism among amphibian larvae: a case of good taste,” January 1994, vol. 9, issue 1, pp. 5–6))
 (Highlighted in *The 1994 Encyclopaedia Britannica Book of the Year* (“Life Sciences, Zoology,” p. 209–210))
 (Highlighted in *The New Scientist* (“Consuming Passion for Distant Relatives,” July 18, 1993, p. 15))
 (Subject of a cartoon by Larry Gonick in *Discover* (“Fine Young Cannibals,” October 1993, p. 124–125))
 (Featured on the cover of the journal)
48. Pfennig, D. W. and Reeve, H. K. 1993. Nepotism in a solitary wasp as revealed by DNA fingerprinting. *Evolution* 47: 700–704.
47. Pfennig, D. W., Reeve, H. K., and Sherman, P. W. 1993. Kin recognition and cannibalism in spadefoot toad tadpoles. *Animal Behaviour* 46: 87–94.

(Highlighted in *Scientific American* ("Relative Hunger," March 1992, p. 18))

(Highlighted in *The Washington Post* ("For Arizona's Cannibalistic Tadpoles, Eating is a Relative Matter," December 9, 1991, p. A3))

46. Pfennig, D. W. 1992. Polyphenism in spadefoot toad tadpoles as a locally-adjusted evolutionarily stable strategy. *Evolution* 46: 1408–1420.
45. Pfennig, D. W. 1992. Proximate and functional causes of polyphenism in an anuran tadpole. *Functional Ecology* 6: 167–174.
(Highlighted in Chapter 1 ("Animal the Cannibal") of the book, *Cannibalism: A Perfectly Natural History*, by Bill Schutt, 2017)
44. Pfennig, D. W., Mabry*, A., and Orange*, D. 1991. Environmental causes of correlations between age and size at metamorphosis in *Scaphiopus multiplicatus*. *Ecology* 72: 2240–2248.
43. Pfennig, D. W., Loeb†, M. L. G., and Collins, J. P. 1991. Pathogens as a factor limiting the spread of cannibalism among tiger salamanders. *Oecologia* 88: 161–166.
(Highlighted in *The New Scientist* ("Cannibals Eat Their Way to an Early Death," December 7, 1991, p. 23))
42. Pfennig, D. W. 1990. "Kin recognition" among spadefoot toad tadpoles: a side-effect of habitat selection? *Evolution* 44: 785–798.
41. Pfennig, D. W. 1990. The adaptive significance of an environmentally-cued developmental switch in an anuran tadpole. *Oecologia* 85: 101–107.
40. Pfennig, D. W. 1990. Nestmate and nest discrimination among workers from neighboring colonies in social wasps, *Polistes exclamans*. *Canadian Journal of Zoology* 68: 268–271.
39. Pfennig, D. W. and Reeve, H. K. 1989. Neighbor recognition and context-dependent aggression in a solitary wasp, *Sphecius speciosus* (Hymenoptera: Sphecidae). *Ethology* 80: 1–18.
38. Gamboa, G. J., Reeve, H. K., and Pfennig, D.W. 1986. The evolution and ontogeny of nestmate recognition in social wasps. *Annual Review of Entomology* 31: 431–454.
37. Pfennig, D. W. and Klahn, J. E. 1985. Dominance as a predictor of cofoundress disappearance order in social wasps (*Polistes fuscatus*). *Ethology* (nee: *Zeitschrift für Tierpsychologie*) 67: 198–203.
36. Reeve, H. K., Shellman Reeve, J., and Pfennig, D. W. 1985. Eusociality and genetic variability: a re-evaluation. *Evolution* 39: 200–201.
35. Cothran, E. G., MacCluer, J. W., Weitkamp, L. R., Pfennig, D. W., and Boyce, A. J. 1984. Inbreeding and reproductive performance in Standardbred horses. *Journal of Heredity* 75: 220–224.

34. MacCluer, J. W., Boyce, A. J., Dyke, B., Weitkamp, L. R., Pfennig, D. W., and Parsons, C. J. 1983. Inbreeding and pedigree structure in Standardbred horses. *Journal of Heredity* 74: 394–399.
33. Pfennig, D. W., Gamboa, G. J., Reeve, H. K., Shellman Reeve, J., and Ferguson, I. D. 1983. The mechanism of nestmate discrimination in social wasps (*Polistes*, Hymenoptera: Vespidae). *Behavioral Ecology and Sociobiology* 13: 299–305.
32. Pfennig, D. W., Reeve, H. K., and Shellman, J. S. 1983. Learned component of nestmate discrimination in workers of a social wasp, *Polistes fuscatus* (Hymenoptera: Vespidae). *Animal Behaviour* 31: 412–416.

Book chapters (Peer-reviewed):

31. Pfennig, D. W. 2021. Key questions about phenotypic plasticity. pp. 55–88. In: D. W. Pfennig (ed.) *Phenotypic Plasticity & Evolution: Causes, Consequences, Controversies*, CRC Press, Boca Raton, FL.
30. Levis[†], N. A. and Pfennig, D. W. 2021. Innovation and diversification via plasticity-led evolution. pp. 211–240. In: D. W. Pfennig (ed.) *Phenotypic Plasticity & Evolution: Causes, Consequences, Controversies*, CRC Press, Boca Raton, FL.
29. Levis[†], N. A. and Pfennig, D. W. 2020. Phenotypic plasticity and the origins of novelty. pp. 443–458. In H. Levine, M. K. Jolly, P. Kulkarni, and V. Nanjundiah (eds.) *Phenotypic Switching: Implications in Biology and Medicine*, Academic Press, San Diego, CA.
28. Levis[†], N. A. and Pfennig, D. W. 2017. Phenotypic plasticity. In K. Pfennig (ed.) *Oxford Bibliographies in Evolutionary Biology*. Oxford University Press, New York. (DOI: 10.1093/OBO/9780199941728-0093).
27. Pfennig, D. W. 2017. Principle of divergence. In V. Zeigler-Hill and T. Shackelford (eds.) *Encyclopedia of Personality and Individual Differences*. Springer (doi: 10.1007/978-3-319-28099-8_1561-1).
26. Kingsolver, J. G. and Pfennig, D. W. 2013. Responses to selection: natural populations. pp. 238-246. In J. B. Losos (ed.) *The Princeton Guide to Evolution*, Princeton University Press, Princeton, NJ.
25. Pfennig, D. W. 2016. Ecological evolutionary developmental biology. pp. 474–481. In R. M. Kliman (ed.) *Encyclopedia of Evolutionary Biology. vol. 1*, Academic Press, Oxford.
24. Kikuchi[†], D. W. and Pfennig, D. W. Mimicry. 2012. In D. Gibson (ed.) *Oxford Bibliographies in Ecology*. Oxford University Press, New York. (DOI: 10.1093/OBO/9780199830060-0027)

23. Pfennig, D. W. and Kingsolver, J. G. 2009. Phenotypic selection. pp. 101–108. In S. A. Levin (ed.) *The Princeton Guide to Ecology*, Princeton University Press, Princeton, NJ.
22. Pfennig, D. W. 2002. Kin recognition. pp. 592–595. In M. Pagel (ed) *Encyclopedia of Evolution*, Oxford University Press, Oxford.
21. Sherman, P. W., Reeve, H. K., and Pfennig, D. W. 1997. Recognition systems. pp. 69–96. In J. R. Krebs and N. B. Davies (eds) *Behavioural Ecology: An Evolutionary Approach*, 4th edn, Blackwell Scientific Publications, Oxford.

Other publications (Not peer-reviewed):

20. Pfennig, D. W. 2022. Evolution and the flexible organism. *American Scientist* 110: 94–101.
 (Featured on the cover of the journal)
 (Translated in the August 2022 issue of *Pour la Science*, a monthly French magazine affiliated with *Scientific American*)
 (Translated in *Spektrum der Wissenschaft*, a German scientific magazine affiliated with *Nature*)
19. Pfennig, D. W. and Pfennig, K. S. 2020. Quick guide: character displacement. *Current Biology* 30: R1023–R1024.
18. Levis[†], N. A. and Pfennig, D. W. 2020. Evolution: ancestral plasticity promoted extreme temperature adaptation in thermophilic bacteria. *Current Biology* 30: R68–R70.
17. Levis[†], N. A. and Pfennig, D. W. 2017. Organisms and their environment: an evolving relationship. *Evolution* 71: 503–504. (book review of *Organism and environment: ecological development, niche construction, and adaptation* by S. E. Sultan).
16. Pfennig, D. W. 2016. To mimicry and back again. *Nature* 534:184–185.
15. Pitnick, S. and Pfennig, D. W. 2014. Brotherly love benefits females. *Nature* 505: 626–627.
14. Pfennig, D. W. 2013. Inviabile immigrants drive diversification in the sea. *Proceedings of the National Academy of Sciences, USA* 110: 3713–3714.
13. Pfennig, D. W. 2012. Mimicry: ecology, evolution, and development. *Current Zoology* 58: 603–606.
12. Pfennig, D. W. and Kikuchi[†], D. W. 2012. Life imperfectly imitates life. *Nature* 483: 410–411.
11. Kingsolver, J. G. and Pfennig, D. W. 2011. Darwin in the 21st Century. *Evolution* 65: 2130–2132. (book review of *Evolution Since Darwin*, Edited by M. Bell, D. Futuyma, W. Eanes, and J. Levinton).

10. Abbot, P. et al. (Pfennig, D. W. is one of 137 authors). 2011. Inclusive fitness theory and eusociality. **Nature** 471: E1–E4. (Brief communication arising from the article: M. A. Nowak, C. E. Tarnita and E. O. Wilson. *Nature* 466, 1057–1062 (2010)).
9. Pfennig, D. W. and Ledón-Rettig[†], C. 2009. The flexible organism. **Science** 325: 268–269. (book review of *Ecological Developmental Biology* by S. F. Gilbert and D. Epel).
8. Pfennig, D. W. 2004. Putting genes in perspective. **American Scientist** 92: 84–86. (book review of *Developmental Plasticity and Evolution*, by M. J. West-Eberhard).
7. Kingsolver, J. G. and Pfennig, D. W. 2001. Testing Darwin's postulates. **Trends in Ecology and Evolution** 16: 165. (book review of *Adaptive Genetic Variation in the Wild*, Edited by T. Mousseau, B. Sinervo, and J. A. Endler).
6. Pfennig, D. W. 2000. Attack of the tadpoles! **Dragonfly** 4: 16–17.
5. Pfennig, D. W. 1998. The evolution of selflessness and selfishness. **BioScience** 48:9–11. (book review of *Survival Strategies: Cooperation and Conflict in Animal Societies*, by R. Gadagkar).
4. Pfennig, D. W. and Sherman, P. W. 1995. Kin recognition. **Scientific American** 272 (6): 98–103.
(Featured on the cover of the journal)
3. Pfennig, D. W. 1994. Cannibalism. **Journal of Evolutionary Biology** 4:121–123. (book review of *Cannibalism. Ecology and Evolution among Diverse Taxa*, Edited by M. A. Elgar and B. J. Crespi).
2. Pfennig, D. W. 1992. Social evolution of wasps. **Journal of Evolutionary Biology** 5: 729–731. (book review of *The Social Biology of Wasps*, Edited by K. G. Ross and R. W. Matthews).
1. Pfennig, D. W. and Sherman, P. W. 1992. Identifying relatives. **Science** 255: 217–218. (book review of *Kin Recognition*, Edited by P. G. Hepper).

Research Funding

(D. Pfennig is the sole PI on all grants unless noted otherwise)

Major grants:

- | | |
|-----------|--|
| 2018-2022 | NSF-DEB 1753865: "Evaluating phenotypic plasticity's role in adaptive evolution" (\$566,854 total costs; 06/01/2018–05/31/2022) |
| 2016-2019 | NSF-DEB 1643239: "Does adaptation facilitate or constrain further adaptation? Evaluating the origins of character displacement" (\$172,000 total costs; PI with co-PI Karin Pfennig, UNC; 07/01/2016–06/30/2019) |

2010-2016 NSF-DEB 1019479: "Evolution and development of character displacement" (\$557,600 total costs; 09/01/2010–08/31/2016)

2009-2013 NSF-DEB 0922111: "Competition and the origins of diversity: experimental evolution of resource polymorphism, character displacement, and reproductive isolation in viruses" (\$561,000 total costs; co-P.I. with Christina Burch, UNC; 07/15/2009–07/14/2013)

2007-2011 NSF-DEB 0640026: "Maternal effects, character displacement, and the origins of diversity" (\$371,350 total costs; 02/01/2007–01/31/2011)

2003-2007 NSF-DEB 0234714: "Competition and the origins of diversity: an experimental test of the ecological speciation hypothesis" (\$367,384 total costs; 03/01/2003–02/28/2007)

1999-2002 NSF-DEB 9873633: "An experimental investigation of ecological character displacement in polyphenic species" (\$167,131 total costs; 05/01/1999–04/30/2002)

1998-2003 NSF-IBN 9808641: "Evolution and development of polyphenism" (\$225,000 total costs)

1995-1999 NSF-IBN-9512110: "Kin recognition in polyphenic species" (\$163,000 total costs)

Other grants and supplements:

2020 Research Supplement (to support publication of an edited book), funded by the NSF (\$12,400 total costs)

2017-2018 Seed Grant, funded by the UNC Biology Dept. (\$30,000 total costs); PI with co-PIs Dan McKay and Nick Levis (UNC)

2017-2018 Research Experience for Teachers Supplement, funded by the NSF (\$15,000 total costs)

2017-2018 Research Experience for Undergraduates Supplement, funded by the NSF (\$7,000 total costs)

2016 Research Experience for Undergraduates Supplement, funded by the NSF (\$12,500 total costs)

2015 Research Experience for Undergraduates Supplement, funded by the NSF (\$12,600 total costs)

2013 Research Experience for Undergraduates Supplement, funded by the NSF (\$12,500 total costs)

2011-2013 NSF-DEB 1110385: "Evolution of mimicry" (\$15,000 total costs); Doctoral Dissertation Improvement Grant awarded to David Kikuchi (graduate student in my lab); 05/01/2011–04/30/2013

| | |
|-----------|---|
| 2009-2013 | "Evolution and development of polyphenisms: pathways to innovation and diversification", Working Group funded by the National Evolutionary Synthesis Center; co-P.I. with Armin Moczek (IU Bloomington) |
| 2008 | "Pathways to innovation and diversification: causes and consequences of polyphenism", Symposium funded by the Animal Behavior Society (\$7,000 total costs); co-P.I. with Armin Moczek (IU Bloomington) |
| 2008 | Research Experience for Undergraduates Supplement, funded by the NSF (\$6,000 total costs) |
| 2007 | Research Experience for Undergraduates Supplement, funded by the NSF (\$6,000 total costs) |
| 2006 | Research Experience for Undergraduates Supplement, funded by the NSF (\$6,000 total costs) |
| 2004 | Research Experience for Undergraduates Supplement, funded by the NSF (\$11,200 total costs) |
| 2000 | Research Experience for Undergraduates Supplement, funded by the NSF (\$6,000 total costs) |

Teaching & Mentoring

Courses taught:

University of North Carolina

Biol 469 Behavioral Ecology. 1997, 1999, 2018*, 2019*, 2021* (*Maymester)

Biol 471 Evolutionary Mechanisms. 1997-present (1/2 semester/yr)

Biol 471L Evolutionary Mechanisms Lab. 2016-present (1/2 semester/yr)

Biol 514 Evolution and Development. 2002-2012 (1/2 semester/yr)

Biol 514H Evolution and Development (honors class). 2013-2017 (1/2 semester/yr);
2018, 2020 (Full semester)

Biol 659 Graduate Seminar in Evolutionary Biology. 1999, 2001, 2005, 2006, 2010,
2016, 2019

University of Illinois

EEE 346 Animal Behavior. 1993, 1995

EEE 383 Behavioral Ecology. 1994

EEE 452 Graduate Seminar in Evolutionary Biology. 1994, 1996

Southwestern Research Station (Portal, AZ)

Field Herpetology of the Southwest. 2012-2020 (1 lecture/summer)

Research advisor to the following graduate students:

(All are Ph.D. students unless noted otherwise; *NSF pre-doctoral fellow; †UNC Royster Fellow)

| | |
|--------------|--|
| 2018-present | Emily Harmon* [†] |
| 2018-present | Andrew Isdaner |
| 2015-2021 | Dr. Pat Kelly (Ph.D. 2021; co-advised with Karin Pfennig); now a postdoctoral fellow, NC State University |
| 2014-2020 | Dr. Nick Levis [†] (Ph.D. 2020); now a postdoctoral fellow, Indiana University |
| 2014-2019 | Dr. Sofia de la Serna Buzon (Ph.D. 2019; co-advised with Karin Pfennig); now a postdoctoral fellow, Boston Children's Hospital, Harvard Medical School |
| 2013-2019 | Dr. Chris Akcali* (Ph.D. 2019); postdoctoral fellow, National Autonomous University of Mexico; current position unknown |
| 2009-2015 | Dr. Lisa Bono (Ph.D. 2015; co-advised with Christina Burch); now an Assistant Professor, Texas Tech University |
| 2009-2012 | Mr. Jeff W. Paull (M.S. 2012); now an Aquatic Scientist at the Texas Commission on Environmental Quality |
| 2008-2013 | Dr. David Kikuchi* [†] (Ph.D. 2013); now an Assistant Professor, Oregon State University |
| 2008-2011 | Dr. Aaron R. Leichty (M.S. 2011); now a Postdoctoral Fellow, UC Davis |
| 2005-2010 | Dr. Cris Ledón-Rettig* (Ph.D. 2010); now an Assistant Professor, Indiana U. |
| 2003-2010 | Dr. Ryan A. Martin (Ph.D. 2010); now an Associate Professor, Case Western Reserve University |
| 2002-2008 | Dr. Amber M. Rice* [†] (Ph.D. 2008); now an Associate Professor, Lehigh University, Bethlehem, Pennsylvania |
| 1999-2006 | Dr. George R. Harper, Jr. (Ph.D. 2006); now a Distinguished Professor, Hendrix College, Conway, Arkansas |
| 1994-2001 | Dr. Michael L. G. Loeb (Ph.D. 2001); now a science writer |
| 1994-1997 | Dr. Eric A. Hoffman (M.S. 1997); now a Professor and Associate Chair, University of Central Florida, Orlando, Florida |

Member on the following non-UNC graduate students' committees:

(All are Ph.D. students unless noted otherwise)

| | |
|------|---|
| 2022 | Stephanie Blain, University of British Columbia (external examiner) |
|------|---|

2013-2018 Patrick Green, Duke University
2013-2014 Mandy Womble, North Carolina State University
2008-2012 Dan Runcie, Duke University
2008-2011 Justin Yeager, East Carolina University (master's student)
2008 Megan Higgle, University of Queensland, Australia (external examiner)
2008 Kevin Parsons, University of Guelph (external examiner)
2006 Arianne Albert, University of British Columbia (external examiner)
2001-2006 Renee A. Duckworth, Duke University
2000-2005 Maria Pia Miglietta, Duke University
1995-2000 W. Anthony Frankino, Indiana University
1996-1999 Peter J. Murphy, Duke University

Research advisor to the following postdocs:

2014-2017 Dr. Paul Durst; SPIRE postdoc; now at Princeton University
2011-2012 Dr. Tami Cruikshank; NESCent postdoc; current position unknown
2011-2012 Dr. Clinton Francis; NESCent postdoc; now an Assistant Prof., California Polytechnic State University
2009-2012 Dr. Juan Santos; NESCent postdoc; now a postdoc at Brigham Young University
2000-2005 Dr. Allison M. Welch; now an Assistant Prof., College of Charleston
2000-2001 Dr. W. Anthony Frankino; now an Associate Prof., University of Houston
1999-2000 Dr. Peter J. Murphy; now a Research Associate at University of Nevada, Reno

Research advisor to the following undergraduate students:

(*undergraduate co-author; see Publications list above for citation)

2021-2022 Tianxiu (Katherine) Li (honors thesis)
2019-2021 Hannah Kennedy
2018-2019 Adam Yeh
2018-2019 Matthew Lowe
2018-2019 Carly Fuller
2018-2019 Rudi Boekschoten
2017-2019 Matthew Nunez
2017-2018 Christina McCutchin

2017-2018 Andrew Isdaner*
2017-2018 Madison Staves
2016-2017 Wilson Zhang
2016-2017 Connor Barringer
2016-2017 Kevin Schulze (honors thesis)
2015-2016 Kerry O'Donnell (REU student)*
2013-2014 Dylan Carroll (honors thesis)
2013-2014 Brianna Osinski
2013-2014 Justin Dizon (REU student)
2012-2014 Georgia Titcomb (honors thesis)*
2012-2015 Bradley Allf (honors thesis)*
2011-2012 Robert Haynes
2011-2012 Antonio Serrato-Capuchina
2011-2012 Thanh-Tam Thi
2010-2011 Sara Garnett (honors thesis)
2010 David Cykert
2008 Rachael Bernstein
2007-2008 Erika Schroeder
2006-2008 Matt McGee (honors thesis)*
2004-2006 Michelle Tien Landstrom
2001-2003 Abel Brumo*
1997-2000 William Harcombe (honors thesis)*
1997-1999 Katrina Rapa (honors thesis)
1995-1996 Simon Ho (honors thesis)*

Invited Presentations

Invited presentations to public audiences:

2022 Gave a presentation on "Life imitating life: evolution of mimicry" for Louisiana Tech University (*Sigma Xi Distinguished Lecturer [Zoom] presentation*)

- 2022 Gave a presentation on "Life imitating life: the evolution of coral snake mimicry" for Herpetology class, Duke University
- 2022 Gave a presentation on "Life imitating life: evolution of mimicry" for Darwin Day at the Citadel, Charleston, SC (*Sigma Xi Distinguished Lecturer presentation*)
- 2022 Gave a presentation on "Plasticity, epigenetics, and evolution" for Darwin Day at the College of Charleston, Charleston, SC (*Sigma Xi Distinguished Lecturer presentation*)
- 2022 Keynote speaker for International Darwin Day at the University of Delaware (*Sigma Xi Distinguished Lecturer [Zoom] presentation*)
- 2021 Gave a presentation for UNC's Tri Beta Club (*Zoom presentation*)
- 2021 Gave a presentation on "Mary Anning" for the Carolina Public Humanities' Lunch With Friends and Strangers (*Zoom presentation*)
- 2021 Gave a presentation on "Plasticity, epigenetics, and evolution" for the Osher Lifelong Learning Institute, University of Michigan Sigma Xi Chapter (*Zoom presentation – Sigma Xi Distinguished Lecturer presentation*)
- 2019 Gave a presentation on "Plasticity, epigenetics, and evolution" for Darwin Day at the North Carolina Botanical Garden, Chapel Hill, NC
- 2018 Gave three presentations on "Life imitating life: the evolution of coral snake mimicry" for Science Day at Culbreth Middle School, Chapel Hill, NC
- 2018 Gave a presentation on "Life imitating life: the evolution of coral snake mimicry" for Herpetology class, Duke University
- 2016 Gave a presentation on "Environment, epigenetics, and evolution" for the UNC Program in the Humanities (Adventure in Ideas Series)
- 2016 Gave a presentation on "Life imitating life: evolution of mimicry" for the Cleveland Museum of Natural History, Cleveland, OH
- 2016 Gave a presentation on "The evolution of mimicry: is that snake dangerous?" for Reptile and Amphibian Day, North Carolina Museum of Natural Sciences
- 2016 Gave a presentation on "The evolution of mimicry: is that snake dangerous?" for Darwin Day, North Carolina Museum of Natural Sciences
- 2015 Gave a presentation on "Cannibal tadpoles and rattlesnake tails: plasticity and the origins of diversity" for the Cornell Herpetological Club, Ithaca, NY
- 2015 Gave three presentations on "Coral snake mimicry: is that snake dangerous?" for Science Day at Culbreth Middle School, Chapel Hill, NC

- 2013 Gave a presentation on "When life imitates life" for North Carolina Congress of Herpetology, NC Zoo, Asheboro, NC
- 2012 Gave a presentation on "Nature versus nurture or nature *and* nurture?" for the UNC Program in the Humanities and Human Values (Adventure in Ideas Series)
- 2011 Gave a presentation on "When life imitates life" for the North Carolina Herpetological Society Spring Meeting, Pocosin Lakes National Wildlife Refuge, NC
- 2011 Gave a presentation on "What does a biology professor do?" for Rashkis Elementary School, Chapel Hill, NC
- 2010 Gave a presentation on "What is evolution, how does it work, and why is it important?" for the Osher Lifelong Learning Institute, Duke University Chapter
- 2009 Gave a presentation on "How to be a biologist" for Rashkis Elementary School, Chapel Hill, NC
- 2008 Gave a presentation on "What is evolution, how does it work, and why is it important?" for the Morehead Planetarium and Science Center, UNC (part of "Family Science Day")
- 2008 Gave a presentation on "Evolution: how does it work and why it is important?" for the NC Society for Ethical Culture
- 2007 Gave a presentation on "What is phenotypic plasticity and why is it important?" for the North Carolina Herpetological Society Spring Meeting, Grandfather Mountain, NC
- 2006 Gave a presentation on "Evolution: how does it work and why it is important?" for the Science Spectrum Symposium, UNC (presentation for high school students)
- 2006 (June) Gave a presentation on "Evolution: how does it work and why it is important?" for the UNC Program in the Humanities (Adventure in Ideas Series)
- 2006 (Jan.) Gave a presentation on "Evolution: how does it work and why it is important?" for the UNC Program in the Humanities (Adventure in Ideas Series)
- 1999-2005 Gave annual presentations on "Evolution" for McDougle Middle School, Carrboro, NC (for six years)
- 1997 Gave a presentation on "Evolution" for the Biology Undergraduate Student Association, Duke University

Invited presentations on the internet & television:

- 2022 Interviewed on *The Big Biology Podcast* (Episode 78: "The amphibian omnivore's dilemma: plasticity-led evolution in spadefoot tadpoles")
(<https://www.bigbiology.org/season-4#episode78>)
- 2019 Appeared on an episode of the National Science Foundation's *Science Nation* ("Shape Shifting Toad")
(<https://www.youtube.com/watch?v=k-AIJicehEo>)
- 2018 Interviewed on the Institute for the Arts and Humanities' (UNC, Chapel Hill) *The Institute Podcast* ("Evolution and Environment")
(<https://iah.unc.edu/evolution-and-environment-with-david-pfennig/>)
- 2016 Appeared on the BBC/PBS TV show "Natural Born Hustlers: Episode 1 - Staying Alive" (part of PBS's *Nature* series)
(<https://www.pbs.org/wnet/nature/nature-natural-born-hustlers-part-1-preview/18772/>)
- 2004 Appeared on National Geographic TV's "Are We Cannibals?"
(<https://www.imdb.com/title/tt0859731/>)
- 2000 Appeared on the BBC/PBS TV show "The Body Changers"
(part of PBS's *Nature* series)
(<https://www.pbs.org/wnet/nature/the-body-changers-introduction/2923/>)
- 2000 Appeared on an episode of KUAT Tucson TV's "The Desert Speaks" (broadcast nationwide on American Public Television)
(<https://tv.azpm.org/schedules/episode/231279/>)

Invited presentations to professional audiences:

At academic institutions:

(*more than one presentation delivered):

- 2022 Virginia Tech University
- 2022 Helen Battle Lecture, Department of Biology, University of Western Ontario
(*Zoom presentation*)
- 2021 University of Pittsburgh, Dept. of Biological Sciences (*Zoom presentation*)
- 2021 (Oct.) Western Ontario University, Dept. of Biological Sciences (*Zoom presentation*)
- 2021 Max Plank Institute for Developmental Biology, Tübingen, Germany (*Zoom presentation*)
- 2021 Villanova University (*Zoom presentation – Sigma Xi Distinguished Lecturer presentation*)
- 2021 Fairfield University (*Zoom presentation – Sigma Xi Distinguished Lecturer presentation*)

2021 Georgia Southern University, Dept. of Biology (*Zoom presentation – Sigma Xi Distinguished Lecturer presentation*)

2021 (Jan.) Western Ontario University, Dept. of Biology (*Zoom presentation*)*

2020 North Carolina State University, Program in Genetics and Genomics
(graduate students' choice)

2019 Dept. of Comparative Medicine, University of North Carolina

2019 Dept. of Biology, University of Idaho (*Skype presentation*)

2019 Dept. of Zoology, University of British Columbia (*Skype presentation*)

2018 Florida State University, Dept. of Biology*

2017 College of William and Mary, Dept. of Biology

2017 American Museum of Natural History's Southwestern Research Station

2016 American Museum of Natural History's Southwestern Research Station

2016 University of Michigan, Dept. of Ecology and Evolutionary Biology
(*"Gaige Annual Lecture"*)

2016 Case Western Reserve University, Dept. of Biology

2016 University of Arizona, Dept. of Ecology and Evolutionary Biology
(*"Distinguished Lecturer"*)

2015 University of Central Florida, Dept. of Biology

2015 Swarthmore College, Dept. of Biology

2015 American Museum of Natural History's Southwestern Research Station

2015 Harvard Medical School, Dept. of Systems Biology (*"theory lunch"*)

2015 University of Virginia (*"Invited Plenary Speaker, Darwin Day"*)

2014 University of Illinois, Program in Ecology, Evolution, and Conservation
Biology (graduate students' choice)

2014 University of Missouri, Division of Biological Sciences (graduate students'
choice)

2014 American Museum of Natural History's Southwestern Research Station*

2014 University of Southern California, Dept. of Molecular and Computational
Biology

2013 Brigham Young University, Dept. of Biology (graduate students' choice)

2013 Davidson College, Dept. of Biology

2013 American Museum of Natural History's Southwestern Research Station

2013 Wake Forest University, Dept. of Biology

2013 Duke University (Developmental and Stem Cell Biology group)

2013 University of North Carolina at Chapel Hill, Royster Society of Fellows
(UNC-campus wide graduate students' choice "pub" talk)

2012 Reed College, Dept. of Biology

2012 American Museum of Natural History's Southwestern Research Station*

2012 North Carolina State University, Dept. of Biology

2011 University of Chicago (Evolutionary Morphology group)

2011 Duke University, Dept. of Biology (Evo-Devo-Genomics group)

2011 American Museum of Natural History's Southwestern Research Station

2011 Boston University, Dept. of Biology

2010 University of South Carolina, Dept. of Biological Sciences (graduate students'
choice)

2010 American Museum of Natural History's Southwestern Research Station

2010 University of Cincinnati, Dept. of Biological Sciences

2010 University of Nebraska, Dept. of Biological Sciences (graduate students'
choice)

2010 Michigan State University, Graduate Program in Ecology, Evolutionary
Biology, and Behavior

2009 American Museum of Natural History's Southwestern Research Station

2009 University of North Carolina at Greensboro, Dept. of Biology

2008 Cornell University, Section of Neurobiology and Behavior

2008 Indiana University, Dept. of Biology

2008 Lehigh University, Dept. of Biology

2008 East Carolina University, Dept. of Biology (graduate students' choice)

2008 Ohio University, Dept. of Biological Sciences (graduate students' choice)

2008 University of New Orleans, Dept. of Biology (graduate students' choice)

2008 Duke University, Graduate Program in Ecology

2007 National Evolutionary Synthesis Center, Durham, NC

2007 University of Missouri, Dept. of Biological Sciences

2007 American Museum of Natural History's Southwestern Research Station

2007 Stony Brook University, Dept. of Ecology and Evolution (three talks)*

2007 Iowa State University, Dept. of Ecology, Evolution, and Organismal Biology

2005 University of Kentucky, Dept. of Biology*

2005 Duke University, Dept. of Biology (EvoDevo group)

2005 University of Virginia Mountain Lake Biological Station (Walton Lecture)

2005 College of Charleston, Dept. of Biology

2003 University of Louisville, Dept. of Biology

2002 Colorado State University, Dept. of Biology

2001 University of Memphis, Dept. of Biology

2001 Rice University, Dept. of Ecology and Evolution

2001 University of Texas at Austin, Section of Integrative Biology

2000 Washington University, Dept. of Biology*

2000 Wesleyan University, Dept. of Biology

2000 Appalachian State University, Dept. of Biology

1998 American Museum of Natural History's Southwestern Research Station

1998 University of Oklahoma, Dept. of Zoology*

1997 University of Georgia, Savannah River Ecology Lab

1997 North Carolina State University, Dept. of Zoology

1997 East Carolina University, Dept. of Biology

1996 Cornell University, Section of Neurobiology and Behavior

1996 Duke University, Dept. of Zoology

1996 University of California at Santa Cruz, Dept. of Biology

1996 University of North Carolina, Dept. of Biology

1996 University of Arizona, Dept. of Ecology and Evolutionary Biology

1995 University of Chicago, Dept. of Ecology and Evolution

1995 University of California at Santa Barbara, Dept. of Biological Sciences

1995 University of Nebraska, School of Biological Sciences*

1995 University of Illinois, Dept. of Animal Sciences

1994 University of Kansas, Dept. of Ecology and Systematics

1994 University of Missouri, Dept. of Biological Sciences

1993 Purdue University, Dept. of Biological Sciences

1993 Indiana State University, Dept. of Life Sciences

1993 University of Illinois, Dept. of Entomology

- 1993 University of California at Irvine, Dept. of Ecology and Evolutionary Biology*
- 1993 State University of New York at Albany, Dept. of Biological Sciences
- 1992 Harvard University, Museum of Comparative Zoology
- 1992 Oregon State University, Dept. of Zoology (graduate students' choice)*
- 1992 Wake Forest University, Dept. of Biology
- 1992 Washington State University, Dept. of Zoology
- 1992 University of Idaho, Dept. of Biology
- 1992 University of Illinois, Dept. of Ecology, Ethology and Evolution
- 1992 Dartmouth College, Dept. of Biology
- 1992 Queen's University, Dept. of Biology
- 1991 Cornell University, Section of Neurobiology and Behavior
- 1990 University of Arizona, Dept. of Ecology and Evolutionary Biology
- 1990 Cornell University, Section of Genetics and Development
- 1989 Arizona State University, Dept. of Zoology
- 1988 American Museum of Natural History's Southwestern Research Station
- 1987 American Museum of Natural History's Southwestern Research Station

At professional conferences:

- 2022 Gave an invited presentation for a workshop on "Agency in living systems: conceptual frameworks and research approaches" held at the Konrad Lorenz Institute in Klosterneuburg, Austria (*Zoom presentation*)
- 2021 Keynote speaker for French Plasticity Group (*Zoom presentation for the GDR Plasticité Phénotypique*)
- 2019 Gave a presentation at the Society for the Study of Evolution National Meeting, Providence, RI
- 2013 Gave a presentation at the Society for the Study of Evolution National Meeting, Snowbird, UT
- 2012 Invited participant in a symposium on "The Impacts of developmental plasticity on evolutionary innovation and diversification"; Charleston, SC; sponsored by the Society for Integrative and Comparative Biology
- 2009-2011 Invited participant in the working group on "Costs of plasticity"; sponsored by the National Evolutionary Synthesis Center

- 2006 Gave a presentation at Society for the Study of Evolution National Meeting, Stony Brook, NY
- 2004 Gave a presentation at Society for the Study of Evolution National Meeting, Ft. Collins, CO
- 2002 Invited participant in a symposium on "Phenotypic variation"; Denver, CO; sponsored by the Geological Society of America
- 2002 Gave a presentation at Society for Integrative and Comparative Biology National Meeting, Anaheim, CA
- 2001 Gave a presentation at Society for Integrative and Comparative Biology National Meeting, Chicago, IL
- 2000 Gave a presentation at Society for Integrative and Comparative Biology National Meeting, Atlanta, GA
- 1998 Gave a presentation at International Society for Behavioral Ecology International Meeting, Asilomar, CA
- 1997 Gave a presentation at Society for the Study of Evolution National Meeting, Boulder, CO
- 1996 Gave a presentation at Animal Behavior Society National Meeting, Flagstaff, AZ
- 1995 Gave a presentation at Winter Animal Behavior Conference, Jackson Hole, WY
- 1994 Gave a presentation at Indiana IGERT Mini-Symposium on "Origins of Novel Features," Bloomington, IN
- 1994 Invited participant in a symposium on "Origins and evolution of animal body plans" sponsored by Indiana University (Molecular Biology Symposium)
- 1992 Invited participant in a symposium on "Cannibalism and infanticide" sponsored by the American Society of Zoologists
- 1992 Gave a presentation at Society for the Study of Evolution National Meeting, Asilomar, CA
- 1991 Gave a presentation at Western Regional Conference of Comparative Endocrinology, Tempe, AZ
- 1991 Gave a presentation at Society for the Study of Evolution National Meeting, Hilo, HI
- 1990 Gave a presentation at American Society of Zoologists National Meeting, San Antonio, TX
- 1990 Gave a presentation at International Congress of Systematic and Evolutionary Biology IV, Washington, D.C.

- 1986 Invited participant in a symposium on "Kin recognition" sponsored by the Entomological Society of America
- 1982 Gave a presentation at International Union for the Study of Social Insects, Boulder, CO

Professional Service

Extramural service:

Elected office:

- 2000-2003 Chair, Division of Animal Behavior, Society for Integrative and Comparative Biology

Editorial:

- 2015-present Editorial Advisory Board, *F1000Research* (<http://f1000research.com>)
- 2015-2018 Associate Editor, *Behavioral Ecology and Sociobiology*
- 2014-present Editorial Board, *Evolutionary Developmental Biology*
- 2014-present Contributing Member, *F1000Prime* (Faculty of 1000)
- 2011-2012 Guest Editor, *Current Zoology*
- 2006-2008 Associate Editor, *Evolution*
- 2006-2007 Associate Editor, *Journal of Experimental Zoology*
- 1999-2002 Subject Editor, *Ecology*

Advisory boards:

- 2021 Member, Advisory Panel, National Science Foundation (NSF) Program in Evolutionary Processes
- 2014 Member, Transition Committee, National Evolutionary Synthesis Center
- 2013-2016 Member, Young Investigator Award Selection Committee, American Society of Naturalists (2015-2016: Committee Chair)
- 2009-2012 Member, Operations Committee, National Evolutionary Synthesis Center
- 2008-09 Member, Director Search Committee, National Evolutionary Synthesis Center
- 2003-05, 2010 Member, Advisory Panel, National Science Foundation (NSF) Program in Evolutionary Ecology
- 2004 Member, Advisory Panel, NSF Program in Animal Behavior
- 1999 Member, Advisory Panel, NSF Doctoral Dissertation Improvement Grants

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| 1998-present | Board of Scientific Advisors, Highlands Biological Station (UNC) |
| 1997-2000 | Board of Directors, Organization of Tropical Studies |
| 1996-98 | Scientific Advisory Committee, Southwestern Research Station, Portal, AZ |

Referee for the following journals and publishers

American Naturalist; Animal Behaviour; Annual Review of Ecology, Evolution, and Systematics; Axios; Behavioral Ecology; Behavioral Ecology and Sociobiology; Biological Journal of the Linnean Society of London; Biological Reviews; Biology Letters; Biology Open; BioScience; BMC Evolutionary Biology; Conservation Biology; Copeia; CRC Press (Taylor and Francis); Current Biology; Current Zoology; Ecological Monographs; Ecology; Ecology and Evolution; Ecology Letters; eLife; Ethology; Evolution; Evolution Letters; Evolutionary Ecology; Frontiers in Genetics; Frontiers in Ecology and Evolution; G3: Genes, Genomes, Genetics; Heredity; Herpetological Journal; Journal of Animal Ecology; Journal of Experimental Biology; Journal of Experimental Zoology; Journal of Evolutionary Biology; Journal of Herpetology; Journal of Theoretical Biology; Journal of Zoology; Molecular Ecology; Molecular Ecology Resources; Nature; Nature Climate Change; Nature Communications; Nature Ecology and Evolution; Naturwissenschaften; New Scientist; Paleobiology; Pearson Prentice Hall Publishers; Philosophical Transactions B; Phyllomedusa; PLoS One; Princeton University Press; Proceedings of the National Academy of Sciences, USA; Proceedings of the Royal Society B: Biological Sciences ([selected as one of the top reviewers for 2014](#)); Royal Society Open Science; Science; Science Advances; Science News; Seminars in Cell and Developmental Biology; Sinauer Associates, Inc.; Trends in Ecology and Evolution; Zoological Journal of the Linnean Society

Funding agencies

Austrian Science Fund; German Excellence Initiative (Zukunftskolleg Fellowship); National Geographic Society; National Sciences and Engineering Research Council of Canada; Netherlands Organisation for Scientific Research; The Royal Society (U.K.); Sigma Xi; Swiss National Science Foundation; John Templeton Foundation; US-Israel Binational Science Foundation; U. S. National Science Foundation

External faculty promotions

Auburn University; Boston University; University of Arizona; University of California at Los Angeles; Chatham University; University of Cincinnati; Dartmouth College; East Carolina University; University of Glasgow (Scotland); Indiana State University; Indiana University; Iowa State University; University of Memphis; Michigan State University; University of Missouri; North Carolina State

University; Ohio University; University of Oklahoma; University of Pittsburgh; Rensselaer Polytechnic Institute; Rice University; Seoul National University (South Korea); Texas A&M University; University of Texas at Arlington; Vassar College; University of Virginia; Washington State University; Weizmann Institute of Science (Israel)

Other activities

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| 2022 | Member, Seminar Committee, for the inaugural symposium of the Carolina Biodiversity Collaborative |
| 2014 | Member, Organizing Committee, for Evolution2014, the international meeting of the Society of Evolution in Raleigh, NC |
| 2012 | Member, Tenure and Promotion Committee, Dept. of Biology, Duke University (evaluated one candidate for promotion to Assistant Professor with tenure) |
| 2011 | External reviewer, Dept. of Biology, East Carolina University |
| 2008 | Abstract reviewer, International Society for Behavioral Ecology's International Meeting at Cornell University |
| 2001-2002 | Judging Committee, Student Paper and Poster Awards, Division of Animal Behavior, Society for Integrative and Comparative Biology |

Intramural service:

UNC Biology Department

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| 2019-2020 | Chair, Teaching and Service Allocation Committee |
| 2019-2020 | Member, Post-Tenure Review Committee |
| 2019-2020 | Member, Promotion Committee (evaluated one candidate for reappointment for a second term as an Assistant Professor) |
| 2015 | Member, Tenure and Promotion Committee (evaluated two candidates for promotion to Full Professor) |
| 2014 | Member, Tenure and Promotion Committee (evaluated one candidate for promotion to Associate Professor with tenure) |
| 2011 | Chair, Tenure and Promotion Committee (evaluated one candidate for promotion to Full Professor) |
| 2010 | Member, Tenure and Promotion Committee (evaluated one candidate for promotion to Associate Professor with tenure) |
| 2009 | Chair, Tenure and Promotion Committee (evaluated one candidate for promotion to Associate Professor with tenure) |

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| 2009 | Member, Tenure and Promotion Committee (evaluated one candidate for promotion to Associate Professor with tenure) |
| 2007 | Chair, Tenure and Promotion Committee (evaluated two candidates for promotion to Associate Professor with tenure) |
| 2006-2018 | Member, Chair's Advisory Committee |
| 2003-2012 | Director, Graduate Studies in Evolution, Ecology, and Organismal Biology |
| 2002 | Chair, Evolutionary Geneticist Search Committee (hired Dr. Corbin Jones) |
| 2001 | Chair, Evolutionary Biologist Search Committee (hired Drs. Christina Burch and Maria Servedio) |
| 1999-2001 | Member, Committee on Organismal Biology |
| 1997-2003 | Member, Graduate Admissions Committee |

UNC Curriculum in Environment and Ecology

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| 2008-2012 | Member, Chair's Advisory Committee |
| 2003-04 | Member, Conservation Biologist Search Committee (hired Dr. Charles Mitchell) |

College and University-wide

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| 2021-present | Member, Committee on the Status of Women, UNC |
| 2019-2021 | Faculty Mentor, Targeting Equity in Access to Mentoring (TEAM) ADVANCE Center for Faculty Excellence, UNC |
| 2019-present | Member, Recruitment Fellowship Committee, The Graduate School, UNC |
| 2019-2021 | Board Member, Royster Society of Fellows, The Graduate School, UNC |
| 2018 | Chair, Selection Committee for Director of the Royster Society of Fellows, The Graduate School, UNC |
| 2012-2015 | Director of the Royster Society of Fellows, The Graduate School, UNC |
| 2010-2018 | Chair, Polanyi Lectureship Committee, College of Arts and Sciences (committee brought in: Michael Ruse [2011], Philip Kitcher [2013], Naomi Oreskes [2015], Janet Browne [2017]) |
| 2008-2011 | Member, Dean's Distinguished Dissertation Award Committee |
| 2008-2010 | Member, Institutional Animal Care and Use Committee |
| 2003 | Member, Packard Fellowship Committee |

1999

Member, Biological Oceanographer and Molecular Ecologist Search
Committees for Department of Marine Sciences (hired Drs. John Bruno,
Peter Marko, Rachel Nobel)