

Curriculum Vitae: Dean Carl Adams

Professor

Department of Ecology, Evolution and Organismal Biology and
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EDUCATION

- Ph.D. 1999. State University of New York at Stony Brook. Ecology and Evolution.
M.S. 1994. University of Louisiana at Lafayette. Biology.
B.A. 1992. Franklin and Marshall College. Biology.

ACADEMIC POSITIONS

- 2012-present. **Professor.** Dept. of Ecology, Evolution, and Organismal Biology, Iowa State University.
2012-present. **Professor.** Dept. of Statistics, Iowa State University.
2015-2016. Professeur Invité. Laboratoire Biogéosciences, Université de Bourgogne, France.
2015-2016. Chercheur Invité. Conseil Régional de Bourgogne, France.
2006-2012. Associate Professor. Dept. of Ecology, Evolution, and Organismal Biology, Iowa State University.
2006-2012. Associate Professor. Dept. of Statistics, Iowa State University.
2009-2010. Visiting Associate Professor. Museo di Storia Naturale, Università degli Studi di Firenze, Italy.
2001-2006. Assistant Professor. Dept. of Ecology, Evolution, and Organismal Biology, Iowa State University (2001-2003: Dept. Zoology & Genetics).
2001-2006. Assistant Professor. Dept. of Statistics, Iowa State University.
1999-2001. NSF Postdoctoral Research Fellow (Biological Informatics). Dept. of Zoology and Genetics, Iowa State University.

RESEARCH INTERESTS: EVOLUTIONARY THEORY, PHENOTYPIC EVOLUTION, MORPHOMETRICS

I am a theoretical evolutionary biologist interested in the evolution of multivariate phenotypes, and the inherent complexities of deciphering evolutionary process in multi-dimensional phenotype spaces. I develop new analytical tools for quantifying multivariate phenotypes (morphometrics) and for characterizing patterns of phenotypic evolution. Current research emphasizes the development of phylogenetic comparative methods for multivariate datasets, and morphometric methods for characterizing patterns of shape variation and covariation. I am the primary author and maintainer of the popular software R-package *geomorph*, which may be used for shape analysis and for phylogenetic comparative analyses of high-dimensional data. My empirical work focuses on morphological evolution in vertebrates, with an emphasis on plethodontid salamanders.

MAJOR GRANTS

(TOTAL: \$2,000,159)

- 2016-2019. **National Science Foundation.** “Collaborative Research: Extension of phylogenetic comparative methods for evaluating within-species, microevolutionary patterns in a macroevolutionary context.” PI: Michael Collyer, Co-PI: Dean Adams. (DEB-1556379. total: \$489,803; Adams lab portion: \$315,000).
2013-2016. **National Science Foundation.** “Evolution of the multivariate phenotype: phylogenetic tests of rates of size and shape evolution in salamanders.” (DEB-1257287. \$200,000).

- 2011-2015. **National Science Foundation.** “Evolutionary convergence or parallelism? Examining recurrent patterns of phenotypic evolution in marine scallops.” PI: Jeanne Serb, Co-PI: Dean Adams (DEB-1118884. Total \$611,000; Adams lab portion: \$296,000).
- 2005-2011. **National Science Foundation.** “CAREER: Evolutionary community ecology in *Plethodon* salamanders.” (DEB-0446758. \$557,604).
- 2001-2003. **National Science Foundation.** “Research Starter Grant: The morphological consequences of competition in *Plethodon* salamanders.” (DEB-0122281. \$35,000).
- 1999-2001. **National Science Foundation.** “Postdoctoral Research Fellowship in Biological Informatics: Comparison of three-dimensional protein structures using geometric morphometrics.” (DBI-9974207. \$100,000).
- 1998-2000. **National Science Foundation.** “Doctoral Dissertation Improvement Grant: Extensions of landmark-based morphometrics methods to articulated structures: an example using *Plethodon*.” PI: F. James Rohlf; Co-PI: Dean Adams. (IBN-9800636. \$7,752).

HONORS AND AWARDS

2014. **Mid-Career Achievement in Research Award.** College of Liberal Arts and Sciences, Iowa State University.
2011. **Outstanding Achievement in Teaching Award.** College of Liberal Arts and Sciences, Iowa State University.
- 2005-2011. National Science Foundation. CAREER Award Recipient.
2009. Excellence in Teaching Advanced Courses in Biology. (Student nominated award).
2006. Faculty of 1000 article (for Fedrigo et al., 2005; *J. Exp. Biol.*B).
2003. Iowa State University. Excellence in Education Award Nominee.
2002. CIES Fulbright Foundation. “Research/Lecture Exchange: Morphometric quantification of color patterns in *Heliconius* butterflies.” (awarded but declined).
2000. Editor’s Choice in *Science* (for Adams and Rohlf, 2000; *PNAS*).
1999. Departmental Service Award. Department of Ecology and Evolution, State University of New York at Stony Brook.
1997. Sigma Xi. the Scientific Research Society, State University of New York at Stony Brook Chapter. Award for Excellence in Doctoral Research.

PUBLICATIONS (119 total: * indicates lab student; ‡ indicates lab postdoc)

Citations (September, 2017): 8,582 total; H-index = 43; i₁₀ index = 87

2017

119. **Adams, D.C.**, and M.L. Collyer. 2017. Multivariate phylogenetic comparative methods: Evaluations, comparisons, and recommendations. *Systematic Biology*. (In Press).
118. Serb, J.S., E. Sherratt, A. Alejandrino, and **D.C. Adams**. 2017. Phylogenetic convergence and multiple shell shape optima for gliding scallops (Bivalvia: Pectinidae). *Journal of Evolutionary Biology*. 30:1736-1747.
117. **Adams, D.C.**, D. Korneisel*, M. Young*, and A. Nistri. 2017. Natural history constrains the macroevolution of foot morphology in European plethodontid salamanders. *American Naturalist*. 190:292-297.

116. Bohórquez-Herrera, J., D. Aurióles-Gamboa, C. Hernández-Camacho and **D.C. Adams**. 2017. Variability in the Skull Morphology of Adult Male California Sea Lions and Galapagos Sea Lions. Pp. 22-49 in: *Tropical pinnipeds: Bio-ecology, threats and conservation*. (J.J. Avala ed). CRC Press.

115. Cayuela, M.L., E. Aguilera, A. Sanz-Cobena, **D.C. Adams**, D. Abalos, L. Barton, R. Ryals, W.L. Silver, M.A. Alfaro, V.A. Pappa, P. Smith, J. Garnier, G. Billen, L. Bouwman, A. Bondeau, and L. Lassaletta. 2017. Direct nitrous oxide emissions in Mediterranean climate cropping systems: Emission factors based on a meta-analysis of available measurement data. *Agriculture, Ecosystems & Environment*. 238: 25-35.

2016

114. **D.C. Adams** and M.L. Collyer. 2016. On the comparison of the strength of morphological integration across morphometric datasets. *Evolution*. 70:2623-2631.

113. Sherratt, E.* , A. Alejandrino*, A.C. Kraemer*, J.M. Serb, and **D.C. Adams**. 2016. Trends in the sand: directional evolution in the shell shape of recessing scallops (Bivalvia: Pectinidae). *Evolution*. 70:2061-2073.

112. Kraemer, A.C.* , J.M. Serb, and **D.C. Adams**. 2016. Both novelty and conspicuousness influence selection on *Plethodon cinereus* color morphs by mammal predators. *Biological Journal of the Linnean Society*. 118:889-900.

111. **Adams, D.C.** 2016. Evaluating modularity in morphometric data: Challenges with the RV coefficient and a new test measure. *Methods in Ecology and Evolution*. 7:565-572.

110. Kaliontzopoulou, A., and **D.C. Adams**. 2016. Phylogenies, the comparative method and the conflation of tempo and mode. *Systematic Biology*. 65:1-15.

2015

109. Collyer, M.L., D.J. Sekora, and **D.C. Adams**. 2015. A method for analysis of phenotypic change for phenotypes described by high-dimensional data. *Heredity*. 115: 357-365.

108. Denton, J.S.S., and **D.C. Adams**. 2015. A new phylogenetic test for comparing multiple high-dimensional evolutionary rates suggests interplay of evolutionary rates and modularity in lanternfishes (Myctophiformes; Myctophidae). *Evolution*. 69:2425-2440.

107. Salvidio, S., F. Crovetto, and **D.C. Adams**. 2015. Rapid evolution of foot morphology in Italian plethodontid salamanders (*Hydromantes strinatii*) following the colonization of an artificial cave. *Journal of Evolutionary Biology*. 28:1403-1409.

106. Kraemer, A.C.* , J.M. Serb, and **D.C. Adams**. 2015. Model toxin level does not directly influence the evolution of mimicry in the salamander *Plethodon cinereus*. *Evolutionary Ecology*. 29:511-523.

105. Kraemer, A.C.* , J.M. Serb, and **D.C. Adams**. 2015. Batesian mimics influence the evolution of conspicuousness in an aposomatic salamander. *Journal of Evolutionary Biology*. 28:1016-1023.

104. Rice, J.W., M.C. Clough, J.K. Olson, **D.C. Adams**, and J.T. Colbert. 2015. University faculty and their knowledge and acceptance of biological evolution. *Evolution, Education, and Outreach*. 8:8. doi:10.1186/s12052-015-0036-5

103. Bohórquez-Herrera, J., V. H. Cruz-Escalona, **D.C. Adams**, and M. S. Peterson. 2015. Feeding ecomorphology of seven demersal marine fish species in the Mexican Pacific Ocean. *Environmental Biology of Fishes*. 98:1459-1473.
102. **Adams, D.C.**, and M.L. Collyer. 2015. Permutation tests for phylogenetic comparative analyses of high-dimensional shape data: what you shuffle matters. *Evolution*. 69: 823-829.
101. Kaliontzopoulou, A.‡, M.A. Carretero, and **D.C. Adams**. 2015. Ecomorphological variation in male and female wall lizards and the macroevolution of sexual dimorphism in relation to habitat use. *Journal of Evolutionary Biology*. 28:80-94.

2014

100. **Adams, D.C.** 2014. A method for assessing phylogenetic least squares models for shape and other high-dimensional multivariate data. *Evolution*. 68:2675-2688.
99. **Adams, D.C.** 2014. A generalized *K* statistic for estimating phylogenetic signal from shape and other high-dimensional multivariate data. *Systematic Biology*. 63:685-697.
98. Caruso, N.M., M. Sears, **D.C. Adams**, and K.R. Lips. 2014. Widespread rapid reductions in body size of Appalachian salamanders in response to climate change. *Global Change Biology*. 20:1751-1759.
 ** Featured commentary in **1) Nature News, 2) Science Now**
 ** Media coverage: **1) Scientific American, 2) National Geographic, 3) BBC Nature, 4) NBC News, 5) Nature World News, 6) International Business Times, 7) Headlines and Global News, 8) The Weather Channel, 9) Austrian Tribune, 10) Huffington Post, 11) University Herald, 12) Der Standard, 13) EcoWatch, 14) Environmental Protection Online, 15) United Press International, 16) RedOrbit, 17) Des Moines Register, 18) Futurity, 19) RadioIowa, 20) Ames Tribune**
97. **Adams, D.C.** and R. Felice. 2014. Assessing phylogenetic morphological integration and trait covariation in morphometric data using evolutionary covariance matrices. *PLoS ONE*. 9(4):e94335.
96. Kraemer, A.C.*, and **D.C. Adams**. 2014. Predator perception of Batesian mimicry in a salamander. *Evolution*. 68:1197-1206.
95. Condon, M.A., S.J. Scheffer, M. Lewis, R. Wharton, **D.C. Adams**, and A.A. Forbes. Lethal interactions between parasites and prey increase niche diversity in a tropical community. *Science*. 343:1240-1244.
 ** Featured Commentary in *Science* 343:1213-1214
 ** Media coverage: **1) National Geographic, 2) Popular Mechanics, 3) Down To Earth, 4) MongaBay.com, 5) Futurity.org**
94. Rivera, G.‡, J.N. Davis*, J.C. Godwin, and **D.C. Adams**. 2014. Parallel evolution of habitat-associated divergence in shell shape of turtles. *Evolutionary Biology*. 41:29-37.
93. **Adams, D.C.** 2014. Quantifying and comparing phylogenetic evolutionary rates for shape and other high-dimensional phenotypic data. *Systematic Biology*. 63:166-177.

2013

92. Kelly, C.D., K.E. Folinsbee, **D.C. Adams**, and M.D. Jennions. 2013. Intraspecific sexual size and shape dimorphism in an Australian freshwater fish differs with respect to a biogeographic barrier and latitude. *Evolutionary Biology*. 40:408-419.
91. Collyer, M. L., and **D.C. Adams**. 2013. Phenotypic trajectory analysis: Comparison of shape change patterns in evolution and ecology. *Hystrix*. 24:75-83.
90. **Adams, D.C.** F. J. Rohlf, and D.E. Slice. 2013. A field comes of age: Geometric morphometrics in the 21st century. *Hystrix*. 24:7-14.
89. Weiner, S.A., D.A. Galbraith, D.C. Adams, N. Valenzuela, F.B. Noll, C.M. Grozinger, and A.L. Toth. 2013. A survey of DNA methylation across social insect species, life stages, and castes reveals abundant and caste-associated methylation in a primitively social wasp. *Naturwissenschaften*. 100:795-799.
88. Outomuro, D., D.C. Adams, and F. Johansson. 2013. Wing shape allometry and aerodynamics in calopterygid damselflies: a comparative approach. *BMC Evolutionary Biology*. 13(118):1-11.
87. Outomuro, D., **D.C. Adams**, and F. Johansson. 2013. Evolution of wing shape in ornamented-winged damselflies. *Evolutionary Biology*. 40:300-309.
86. Berns, C.M.*, and **D.C. Adams**. 2013. Becoming different but staying alike: patterns of sexual size and shape dimorphism in bills of hummingbirds. *Evolutionary Biology*. 40:246-260.
85. Ceballos, C., **D.C. Adams**, J. Iverson, and N. Valenzuela. 2013. Phylogenetic patterns of sexual size dimorphism in turtles and their implications for Rensch's rule. *Evolutionary Biology*. 40:194-208.
84. **Adams, D.C.**, and E. Otárola-Castillo. 2013. geomorph: an R package for the collection and analysis of geometric morphometric shape data. *Methods in Ecology and Evolution*. 4:393-399.
83. Deitloff, J., J.D. Petersen, and **D.C. Adams**. 2013. Complex species interactions lead to unpredictable outcomes in *Plethodon*. *Herpetologica*. 69:1-10.
82. **Adams, D.C.** 2013. Comparing evolutionary rates for different phenotypic traits on a phylogeny using likelihood. *Systematic Biology*. 62:181-192.
- 2012**
81. Kraemer, A.C.*, J. Kissner*, and **D.C. Adams**. 2012. Morphological color changes in the red-backed salamander (*Plethodon cinereus*) while kept in captivity. *Copeia*. 2012:748-755.
80. Rabosky, D.L., and **D.C. Adams**. 2012. Rates of morphological evolution are correlated with species richness in salamanders. *Evolution*. 66:1807-1818.
79. Kaliontzopoulou, A.‡, **D.C. Adams**, A. van der Meijden, A. Perera, and M.A. Carretero. 2012. Relationships between head morphology, bite performance and ecology in two species of *Podarcis* wall lizards. *Evolutionary Ecology*. 26:825-845.
78. Blankers, T., **D.C. Adams**, and J.J. Wiens. 2012. Ecological radiation with limited morphological diversification in salamanders. *Journal of Evolutionary Biology*. 25:634-646.

77. Donnelly, J., **D. Adams**, and J. Dekker. 2012. Does phylogeny determine the shape of the outer seed hull in *Setaria* seeds? Pp. 101-142 In: Dekker, J., D. Adams, A. van Aelst, B. Dekker, J. Donnelly, and M. Haar, M. Hargrove, H. Hilhorst, C. Karssen, J. Lathrop, E. Luschei, and D. Todey. 2012. Weedy *Setaria* seed germination-dormancy behavior: Regulatory compartmentalization. Lambert Academic Publishing, Saarbrücken, Germany. ISBN: 978-3-659-24309-7. 214. Pp.
76. Dekker, J., **D. Adams**, A. van Aelst, B. Dekker, J. Donnelly, and M. Haar, M. Hargrove, H. Hilhorst, C. Karssen, J. Lathrop, E. Luschei, and D. Todey. 2012. Weedy *Setaria* seed germination-dormancy behavior: Regulatory compartmentalization. Lambert Academic Publishing, Saarbrücken, Germany. ISBN: 978-3-659-24309-7. 214 Pp.

2011

75. **Adams, D.C.**, and J.O. Church*. 2011. The evolution of large-scale body size clines in *Plethodon*: evidence of heat-balance or species-specific artifact? *Ecography*. 34:1067-1075.
74. Serb, J.M., A. Alejandrino*, E. Otárola-Castillo*, and **D.C. Adams**. 2011. Morphological convergence of shell shape in distantly related scallop species (Mollusca: Pectinidae). *Zoological Journal of the Linnean Society*. 163:571-584.
73. **Adams, D.C.** 2011. Quantitative genetics and evolution of head shape in *Plethodon* salamanders. *Evolutionary Biology*. 38:278-286.
72. Valenzuela, N., and **D.C. Adams**. 2011. Chromosome number and sex determination co-evolve in turtles. *Evolution*. 65:1808-1813.

** Cover Acknowledgment

71. **Adams, D.C.** A. Cardini, L. R. Monteiro, P. O'Higgins, and F.J. Rohlf. 2011. Morphometrics and Phylogenetics: principal components of shape from cranial modules are neither appropriate nor effective cladistic characters. *Journal of Human Evolution*. 60:240-243.

2010

70. Kelly, C.D., and **D.C. Adams**. 2010. Sexual selection, ontogenetic acceleration, and hypermorphosis generates male trimorphism in Wellington tree weta. *Evolutionary Biology*. 37:200-209.
69. Piras, P., P. Colangelo, **D.C. Adams**, A. Buscalioni, J. Cubo, T. Kotsakis, C. Meloro, and P. Raia. 2010. The *Gavialis-Tomistoma* debate: the contribution of skull ontogenetic allometry and growth trajectories to the study of crocodylian relationships. *Evolution and Development*. 12:568-579.
68. Berns, C.M.*, and **D.C. Adams**. 2010. Bill shape and sexual shape dimorphism between two species of temperate hummingbirds: *Archilochus alexandri* (black-chinned hummingbirds) and *Archilochus colubris* (ruby-throated hummingbirds). *The Auk*. 127:626-635.
67. **Adams, D.C.** and A. Nistri. 2010. Ontogenetic convergence and evolution of foot morphology in European cave salamanders (Family: Plethodontidae). *BMC Evolutionary Biology*. 10(216):1-10.
- ** Featured in Commentary in *BMC Evolutionary Biology* 10:221.
66. **Adams, D.C.** 2010. Parallel evolution of character displacement driven by competitive selection in terrestrial salamanders. *BMC Evolutionary Biology*. 10(72):1-10.

2009

65. Deitloff, J.*, J.O. Church*, **D.C. Adams**, and R.G. Jaeger. 2009. Interspecific agonistic behaviors in a salamander community: implications for alpha-selection. *Herpetologica*. 65:174-182.
64. Escalona, T., **D.C. Adams**, and N. Valenzuela. 2009. Nesting ecology in the freshwater turtle *Podocnemis unifilis*: spatiotemporal patterns and inferred evolutionary explanations. *Functional Ecology*. 23:826-835.
63. **Adams, D.C.**, C.M. Berns*, K.H. Kozak, and J.J. Wiens. 2009. Are rates of species diversification correlated with rates of morphological evolution? *Proceedings of the Royal Society of London, B*. 276:2729-2738.
62. Butterworth, K.M.*, **D.C. Adams**, H.T. Horner, and J.F. Wendel. 2009. Initiation and early development of fiber in wild and cultivated cotton. *International Journal of Plant Sciences*. 170:561-574.
61. **Adams, D.C.**, and M.L. Collyer. 2009. A general framework for the analysis of phenotypic trajectories in evolutionary studies. *Evolution*. 63:1143-1154.
- ** Cover Acknowledgment
60. Marsteller, S., **D.C. Adams**, M.L. Collyer, and M. Condon. 2009. Six sympatric cryptic species on a single host plant: morphometric evidence for possible reproductive character displacement. *Ecological Entomology*. 34:66-73.

2008

59. Myers, E.M.*, and **D.C. Adams**. 2008. Morphology is decoupled from interspecific competition in *Plethodon* salamanders in the Shenandoah Mountains. *Herpetologica*. 64:281-289.
58. Berner, D., **D.C. Adams**, A.C. Grandchamp, and A.P. Hendry. 2008. Inferring natural selection from patterns of lake-stream divergence in stickleback foraging morphology. *Journal of Evolutionary Biology*. 21:1653-1665.
57. Olson, C.R.*, C.M. Vleck, and **D.C. Adams**. 2008. Decoupling morphological development from growth in periodically cooled zebra finch embryos. *Journal of Morphology*. 269:875-883.
56. Deitloff, J.*, **D.C. Adams**, B.F.M. Olechnowski, and R.G. Jaeger. 2008. Interspecific aggression in Ohio *Plethodon*: implications for competition. *Herpetologica*. 64:180-188.
55. Condon, M., **D.C. Adams**, D. Bann, K. Flaherty, J. Gammons, J. Johnson, M.L. Lewis, S. Marsteller, S.J. Scheffer, F. Serna, and S. Swensen. 2008. Uncovering tropical diversity: six sympatric cryptic species of *Blepharoneura* (Diptera: Tephritidae) in flowers of *Gurania spinulosa* (Cucurbitaceae) in eastern Ecuador. *Biological Journal of the Linnean Society*. 93:779-797.
54. **Adams, D.C.** 2008. Phylogenetic meta-analysis. *Evolution*. 62:567-572.
- ** Cover Acknowledgment
53. **Adams, D.C.**, and J.O. Church*. 2008. Amphibians do not follow Bergmann's rule. *Evolution*. 62:413-420.
- ** Cover Acknowledgment

2007

52. Collyer, M.L.[‡], C.A. Stockwell, **D.C. Adams**, and M.H. Reiser. 2007. Phenotypic plasticity and contemporary evolution in introduced populations: evidence from translocated populations of white sands pupfish. *Ecological Research*. 22:902-910.
51. Arif, S.* , **D.C. Adams**, and J.A. Wicknick. 2007. Bioclimatic modeling, morphology, and behavior reveal alternative mechanisms regulating the distributions of two parapatric salamander species. *Evolutionary Ecology Research*. 9:843-854.
50. **Adams, D.C.** 2007. Organization of *Plethodon* salamander communities: guild-based community assembly. *Ecology*. 88:1292-1299.
49. **Adams, D.C.**, and M.L. Collyer[‡]. 2007. Analysis of character divergence along environmental gradients and other covariates. *Evolution*. 61:510-515.
- ** Cover Acknowledgment
48. Collyer, M.L.[‡], and **D.C. Adams**. 2007. Analysis of two-state multivariate phenotypic change in ecological studies. *Ecology*. 88:683-692.
47. **Adams, D.C.**, M.E. West*, and M.L. Collyer[‡]. 2007. Location-specific sympatric morphological divergence as a possible response to species interactions in West Virginia *Plethodon* salamander communities. *Journal of Animal Ecology*. 76:289-295.
46. **Adams, D.C.**, and M.M. Cerney*. 2007. Quantifying biomechanical motion using Procrustes motion analysis. *Journal of Biomechanics*. 40:437-444.
- 2006**
45. Hollander, J., **D.C. Adams**, and K. Johannesson. 2006. Evolution of adaptation through allometric shifts in a marine snail. *Evolution*. 60:2490-2497.
44. Hollander, J., M.L. Collyer[‡], **D.C. Adams**, and K. Johannesson. 2006. Phenotypic plasticity in two marine snails: constraints superseding life-history. *Journal of Evolutionary Biology*. 19:1861-1872.
43. Myers, E.M.* , F.J. Janzen, **D.C. Adams**, and J.K. Tucker. 2006. Quantitative genetics of plastron shape in slider turtles (*Trachemys scripta*). *Evolution*. 60:563-572.
- ** Cover Illustration
42. Maerz, J.C., E.M. Myers*, and **D.C. Adams**. 2006. Trophic polymorphism in a terrestrial salamander. *Evolutionary Ecology Research*. 8:23-35.
- 2005**
41. Fedrigo, O.[†], **D.C. Adams**, and G.J.P. Naylor. 2005. DRUIDS – Detection of regions with unexpected internal deviation from stationarity. *Journal of Experimental Zoology (Molecular and Developmental Evolution)*. 304B:119-128.
- ** Featured article in Faculty of 1000
- 2004**
40. Cerney, M.M.* , and **D.C. Adams**. 2004. Sequestering Size: The Role of Allometry and Gender in Digital Human Modeling. *SAE Transactions Journal of Aerospace*. 113:208-214. (republishing of: Cerney and Adams, 2004. *Proc. SAE Dig. Hum. Mod. Conf.*).

39. Valenzuela, N., **D.C. Adams**, R.M. Bowden, and A.C. Gauger*. 2004. Geometric morphometric sex estimation for hatchling turtles: a powerful alternative for detecting subtle sexual shape dimorphism. *Copeia*. 2004:735-742.
38. **Adams, D.C.** 2004. Character displacement via aggressive interference in Appalachian salamanders. *Ecology*. 85:2664-2670.
- ** Cover Acknowledgment
37. Swart, C.C., and **D.C. Adams**. 2004. The role of muscle mass and tooth number in ecological character displacement between *Plethodon cinereus* and *P. hoffmani* (Caudata: Plethodontidae). *Herpetologica*. 60:408-413.
36. Kassam, D.D., **D.C. Adams**, and K. Yamaoka. 2004. Functional significance of variation in trophic morphology within feeding microhabitat-differentiated cichlid species in Lake Malawi. *Animal Biology*. 54:77-90.
35. EDITED VOLUME. Loy, A., M. Corti, **D.C. Adams**, D.E. Slice, and F.J. Rohlf, guest editors. 2004. *Proceedings of the Rome Geometric Morphometric Workshop. Homage to Leslie F. Marcus*. Special Publication of the Italian Journal of Zoology, Mucchi Editore, Modena. 71(1). 88 pp.
34. **Adams, D.C.**, F.J. Rohlf, and D.E. Slice. 2004. Geometric morphometrics: Ten years of progress following the 'revolution'. *Italian Journal of Zoology*. 71:5-16.
33. Loy, A., M. Corti, **D.C. Adams**, D.E. Slice, and F.J. Rohlf. 2004. Introduction to the proceedings. *Italian Journal of Zoology*. 71:1-3.
32. Cerney, M.M.* , and **D.C. Adams**. 2004. Sequestering Size: The Role of Allometry and Gender in Digital Human Modeling. *Proceedings of the SAE Digital Human Modeling Conference*. Syracuse, Michigan. 2004-04DHM-38.
- 2003**
31. Naylor, G.J.P., and **D.C. Adams**. 2003. Total evidence versus relevant evidence: response to O'Leary et al. (2003). *Systematic Biology*. 52:864-865.
30. Kassam, D.D., **D.C. Adams**, A.J.D. Ambali, and K. Yamaoka. 2003. Body shape variation in relation to resource partitioning within cichlid trophic guilds coexisting along the rocky shore of Lake Malawi. *Animal Biology*. 53:59-70.
29. Kassam, D.D., **D.C. Adams**, M. Hori, and K. Yamaoka. 2003. Morphometric analysis on ecomorphologically equivalent cichlid species from Lakes Malawi and Tanganyika. *Journal of Zoology*. 260:153-157.
28. Valenzuela, N., **D.C. Adams**, and F.J. Janzen. 2003. Pattern does not equal process: Exactly when is sex environmentally determined? *American Naturalist*. 161:676-683.
27. Ashlock, D., **D.C. Adams**, and D. Doty. 2003. Morphometric grayscale texture analysis using foot patterns. *Proceedings of the 2003 Congress on Evolutionary Computation*. 1575-1582.

26. Cerney, M.M.*, **D.C. Adams**, and J.M. Vance. 2003. Image Warping of Three-Dimensional Scan Data. *Proceedings of the SAE Digital Human Modeling Conference*. Montreal, Canada. 2003-01-2231.
25. **Adams, D.C.**, and G.J.P. Naylor. 2003. A comparison of methods for assessing the structural similarity of proteins. in *Mathematical Methods for Protein Structure Analysis and Design*. Advanced Lectures. (C. Guerra, S. Istrail., eds.). Springer Verlag Lecture Notes in Bioinformatics. 2666:109-115.

2002

24. Jaeger, R.G., E.D. Prosen, and **D.C. Adams**. 2002. Character displacement and aggression in two species of terrestrial salamanders. *Copeia*. 2002:391-401.
23. **Adams, D.C.** 2002. Review of: Morphology, Shape and Phylogeny. *Biometrics*. 58:694-695.

2001

22. **Adams, D.C.**, and C.K. Beachy. 2001. Historical explanations of phenotypic variation in the plethodontid salamander *Gyrinophilus porphyriticus*. *Herpetologica*. 57:353-364.
21. Naylor, G.J.P., and **D.C. Adams**. 2001. Are the fossil data really at odds with the molecular data? Morphological evidence for cetartiodactyla phylogeny reexamined. *Systematic Biology*. 50:444-453.
20. Rüber, L., and **D.C. Adams**. 2001. Evolutionary convergence of body shape and trophic morphology in cichlids from Lake Tanganyika. *Journal of Evolutionary Biology*. 14:325-332.
19. Tavaré, S., **D.C. Adams**, O. Fedrigo, and G.J.P. Naylor. 2001. A model for phylogenetic inference using structural and chemical covariates. Pp. 215-225 in *Pacific Symposium on Biocomputing*. (R. B. Altman, A. K. Dunker, L. Hunter, K. Lauderdale, and T. E. Klein, etc.). World Scientific. Singapore.

2000

18. **Adams, D.C.**, and F.J. Rohlf. 2000. Ecological character displacement in *Plethodon*: biomechanical differences found from a geometric morphometric study. *Proceedings of the National Academy of Sciences, U.S.A.* 97:4106-4111.
- ** Featured in "Editor's Choice" in *Science* 288:(5467).
- ** Featured in Commentary in *Proceedings of the National Academy of Sciences, U.S.A.* 97:(11).
- ** Featured as textbook example of character displacement in *Evolution* (Ridley, 3rd ed.).
17. SOFTWARE/BOOK. Rosenberg, M.S., **D.C. Adams**, and J. Gurevitch. 2000. *MetaWin: Statistical software for meta-analysis*. Version 2.0. Sinauer Associates, Sunderland, Massachusetts. 128 pp.
16. **Adams, D.C.**, and G.J.P. Naylor. 2000. A new method for evaluating the structural similarity of proteins using geometric morphometrics. Pp. 120-121 in *Currents in Computational Molecular Biology*. Frontiers Science Series No. 30. (S. Miyano, R. Shamir, and T. Takagi, eds.). Universal Academy Press. Tokyo.
15. **Adams, D.C.** 2000. Divergence of trophic morphology and resource use among populations of *Plethodon cinereus* and *P. hoffmani* in Pennsylvania: a possible case of character displacement. Pp. 383-394 in *The Biology of Plethodontid Salamanders*. (R. C. Bruce, R. J. Jaeger, and L. D. Houck, eds.). Kluwer Academic/Plenum. New York.

14. **Adams, D.C.** 2000. Review of: Sampling and Statistical Methods for Behavioral Ecologists. *Quarterly Review of Biology*. 75:76.

1999

13. **Adams, D.C.** 1999. Methods for shape analysis of landmark data from articulated structures. *Evolutionary Ecology Research*. 1:959-970.
12. Jackson, J.F., **D.C. Adams**, and U. B. Jackson. 1999. Allometry of constitutive defense: a model and comparative test with tree bark and fire regime. *American Naturalist*. 153:614-632.
11. **Adams, D.C.** 1999. *Plethodon hoffmani* (Valley and Ridge Salamander). Predation. *Herpetological Review*. 30:160.
10. **Adams, D.C.** 1999. Review of: Salamanders of the United States and Canada. *Quarterly Review of Biology*. 74:235.

1998

9. **Adams, D.C.**, and M.S. Rosenberg. 1998. Partial-warps, phylogeny, and ontogeny: a comment on Fink and Zelditch (1995). *Systematic Biology*. 47:168-173.
8. Caldecutt, W.J., and **D.C. Adams**. 1998. Morphometrics of trophic osteology in four ecotypes of the threespine stickleback, *Gasterosteus aculeatus*. *Copeia*. 1998:827-838.

1997

7. **Adams, D.C.**, and D.J. Funk. 1997. Morphometric inferences on sibling species and sexual dimorphism in *Neochlamisus bebbianae* leaf beetles: multivariate applications of the thin-plate spline. *Systematic Biology*. 46:180-194.
6. **Adams, D.C.**, J. Gurevitch, and M.S. Rosenberg. 1997. Resampling tests for meta-analysis of ecological data. *Ecology*. 78:1277-1283.
5. **Adams, D.C.**, M.S. Di Bitetti, C.H. Janson, L.B. Slobodkin, and N. Valenzuela. 1997. An "audience effect" for ecological terminology: use and misuse of jargon. *Oikos*. 80:632-636.
4. **Adams, D.C.**, and J.F. Jackson. 1997. A phylogenetic analysis of the southern pines (*Pinus* subsect. *Australes* loud.): Biogeographical and ecological implications. *Proceedings of the Biological Society of Washington*. 110:681-692.
3. SOFTWARE/BOOK. Rosenberg, M.S., **D.C. Adams**, and J. Gurevitch. 1997. *MetaWin: Statistical software for meta-analysis with resampling tests*. Sinauer Associates, Sunderland, Massachusetts. 65 pp.

1996

2. **Adams, D.C.**, and C.D. Anthony. 1996. Using randomization techniques to analyse behavioural data. *Animal Behaviour*. 51:733-738.

1995

1. **Adams, D.C.**, and J.F. Jackson. 1995. Estimating the allometry of tree bark. *American Midland Naturalist*. 134:99-106.

SOFTWARE DEVELOPED

Professionally Published Software

2. 2000. *MetaWin*. Version 2.0. (Rosenberg, **Adams**, and Gurevitch. full citation above).
1. 1997. *MetaWin*. Version 1.0. (Rosenberg, **Adams**, and Gurevitch. full citation above).

Freeware: Major Software Package (available on my web site and other repositories)

1. 2013. *geomorph*. Software for geometric morphometric analyses in R. <http://CRAN.R-project.org/package=geomorph>. (see **Adams** and Otárola-Castillo. 2013. *Methods Ecol. Evol.*).

Freeware: Specific Analytical Routines

13. 2016. *Z-score for comparing integration*. Package (written in R) to evaluate integration across morphometric datasets (see **Adams and Collyer**, 2016. *Evolution*).
12. 2016. *Covariance Ratio (CR) for measuring modularity*. Package (written in R) to evaluate modularity in morphometric data. (see **Adams**, 2016. *Methods in Ecology and Evolution*).
11. 2015. *Multivariate rate comparison among traits*. Package (written in R) to compare evolutionary rates among multiple high-dimensional traits. (see **Denton and Adams**, 2015. *Evolution*).
10. 2014. *Multivariate PGLS*. Package (written in R) to evaluate phylogenetic generalized least squares models for high-dimensional data. (see **Adams**, 2014. *Evolution*).
9. 2014. *Multivariate phylogenetic signal*. Package (written in R) to evaluate phylogenetic signal in multivariate data. (see **Adams**, 2014b. *Systematic Biology*).
8. 2014. *Phylogenetic partial least squares*. Package (written in R) to evaluate morphological integration in a phylogenetic context. (see **Adams and Felice**, 2014. *PLoS ONE*).
7. 2014. *Multivariate evolutionary rate comparison*. Package (written in R) to compare evolutionary rates for high-dimensional traits. (see **Adams**, 2014a. *Systematic Biology*).
6. 2013. *Evolutionary rate comparison*. Package (written in R) to compare evolutionary rates for different traits on a phylogeny using likelihood. (see **Adams**, 2013. *Systematic Biology*).
5. 2009. *Multivariate phenotypic trajectory analysis*. Package (written in R) to quantify and compare attributes of evolutionary phenotypic trajectories. (see **Adams and Collyer**, 2009. *Evolution*).
4. 2008. *Phylogenetic meta-analysis*. Package (written in R) for performing a meta-analysis accounting for phylogenetic non-independence under a Brownian motion model. (see **Adams**, 2008. *Evolution*).
3. 2007. *Multivariate phenotypic change vectors*. Package (written in R) to quantify and compare evolutionary vectors of phenotypic change. (see Collyer and **Adams**, 2007. *Ecology*).
2. 1999. *Adjustment of landmark data for articulated structures*. Software (written in Pascal) for standardizing the articulation angle between two anatomical substructures, so that subsequent shape variables are invariant to angular rotation. (see **Adams**, 1999. *Evolutionary Ecology Research*).
1. 1996. *Randomization of behavioral data*. Package (written in R) for assessing group differences in mean behavior using randomization tests. (see **Adams and Anthony**, 1996. *Animal Behaviour*).

TEACHING EXPERIENCE: UNIVERSITY INSTRUCTION

Vertebrate Biology (Biol 365; Undergraduate: 4 cr.). Iowa State University. 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2016, 2017.

Advanced Biostatistics (EEOB 590/EEB 698: graduate: 2 cr.). Iowa State University. 2000, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2017.

Morphometric Analysis (EEOB 565; Graduate: 4 cr.). Iowa State University. 2002, 2004, 2006, 2008, 2012.

Phylogenetic Comparative Methods (Zool 698: Graduate: 1 cr.). Iowa State University. 2003.

TEACHING EXPERIENCE: NATIONAL AND INTERNATIONAL WORKSHOPS

(These workshops have trained over 342 scientists from 37 countries)

2016. Geometric Morphometrics in R. University of Lund, Sweden.

2016. Multivariate Data Analysis for Ecology and Evolution in R. Transmitting Science, Spain.
2015. Geometric Morphometrics in R. CIBIO, Portugal.
2015. Geometric Morphometrics in R. University of Montreal at Quebec, Canada.
2015. Geometric Morphometrics in R. American Museum of Natural History, NY.
2014. Geometric Morphometrics in R. University of Tromsø, Norway.
2013. Geometric Morphometrics Course. University of Iowa Dental School, Iowa City, IA.
2013. Geometric Morphometrics Course. Boston University Medical Center, Boston, MA.
2012. Multivariate Data Analysis for Ecology and Evolution in R. CIBIO, Portugal.
2010. Advanced Geometric Morphometrics Workshop in Evolution. University of Molise, Molise, Italy.
2010. Geometric Morphometrics Short Course. University of Firenze, Florence, Italy.
2010. Geometric Morphometrics Short Course. University of Genova, Genova, Italy.
2006. Geometric Morphometrics Workshop. Middle East Technical University, Ankara, Turkey.
2006. Geometric Morphometrics Workshop. Iowa State University, Ames, IA.
2004. Geometric Morphometrics Workshop. Umeå University, Umeå Sweden.
2002. Geometric Morphometrics Workshop. Museo Civico di Zoologica, Rome, Italy.
2001. Geometric Morphometrics Workshop. Universidad de Chile, Santiago de Chile, Chile.

MENTORING

Graduate Theses/Dissertations in Progress: Major or Co-Major Professor (2)

2. Erica Baken. Ecology and Evolutionary Biology (2015 -).
1. Bryan Juarez. Ecology and Evolutionary Biology (2015 -).

Graduate Theses/Dissertations Completed: Major or Co-Major Professor (11)

11. 2014. Ph.D. Andrew Kraemer. "The evolution of salamander mimicry: Predators, prey, and perception". Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 130 pp.
10. 2013. Ph.D. Chelsea Berns. "Understanding biodiversity: the importance of sexual dimorphism in the micro- and macroevolution of hummingbirds." Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 171 pp.
9. 2011. Ph.D. James Church. "Ecological processes regulating geographic distributions of *Plethodon* salamanders in the Southern Appalachian Mountains." Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 126 pp.
8. 2008. Ph.D. Jennifer Deitloff. "Ecological processes responsible for species co-occurrence patterns in two species of *Plethodon* salamanders." Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 144 pp. (co-advised with N. Valenzuela).
7. 2008. Ph.D. Erin Myers. "Post-orbital color pattern variation and the evolution of a radiation of turtles (*Graptemys*)." Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 153 pp. (co-advised with F. Janzen).
6. 2005. M.S. Saad Arif. "Community structure and distributions of two terrestrial salamanders: A pluralistic approach." Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 52 pp.
5. 2005. Ph.D. Melinda Cerney. "From gesture recognition to functional motion analysis: quantitative techniques for the application and evaluation of human motion." Human Computer Interaction. Iowa State University, Ames, IA. 115 pp. (co-advised with J. Vance).
4. 2003. M.S. Kara Butterworth. "Initiation and early development of wild and cultivated cotton fibers." Botany. Iowa State University, Ames, IA. 38 pp. (co-advised with J. Wendel).
3. 2003. M.S. Aspen Garry. "Geometric morphometric analysis of shark teeth of the genus *Rhizoprionodon*: the modern, the ancient, and the hypothetical. Modern tooth shape analysis and test of ancestor prediction methods by comparison to fossil shapes." Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 40 pp. (co-advised with G. Naylor).

2. 2003. M.S. Jennifer Donnelly. "Mortality in the Patagonian guanaco (*Lama guanicoe*): can skulls provide accurate estimates of juvenile mortality in the absence of other data?" Ecology and Evolutionary Biology. Iowa State University, Ames, IA. 72 pp.
1. 2003. Ph.D. Tibus Escalona. "Maternal effects on reproductive success in a river turtle (*Podocnemis unifilis*) in southern Venezuela." Ecology, Evolution, and Systematics. University of Missouri at St. Louis, St. Louis, MO. 97 pp. (co-advised with B. Loiselle).

Member of Graduate Student POS Committee

Completed (25), In Progress (6)

External Graduate Student Committees

Completed (5), In Progress (1)

External Evaluator of Graduate Research (8)

8. In Progress. Sarah Steele. Department of Biology, University of Toronto.
7. In Progress. Nick Caruso. Department of Biology. University of Alabama.
6. 2016. Éric Anjard. Laboratoire Biogéosciences, Université de Bourgogne (served as MS1 Advisor).
5. 2014. Andy Grass. Department of Geosciences. University of Iowa. 113 pp.
4. 2014. Jimena Bohórquez Herrera. Centro Interdisciplinario de Ciencias Marinas - Instituto Politécnico Nacional, La Paz, México. 126 pp.
3. 2009. Holly Berg. "The evolution of sexual dimorphism in birds". M.S. University of Iowa.
2. 2007. H. George Wang. "Ecological interactions among diverse species and their implications for community dynamics." Ph.D. University of Louisiana, Lafayette. 127 pp.
1. 2005. Juan Manuel Daza Roja. "Variabilidad morfométrica y su relación con el potencial reproductivo en la tortuga icotea *Trachemys callirostris callirostris* (Testudines: Emydidae) en la depresión momposina, norte de Colombia." M.S. Biología, Facultad de Ciencias Exactas y Naturales Universidad de Antioquia Medellín, Colombia. 66 pp.

Undergraduate Honors Theses Completed (2)

2. 2007. Nicole Seda. "Head shape variation and ecology in *Plethodon* salamanders in the southeastern United States." Undergraduate Animal Ecology Program. Iowa State University, Ames, IA.
1. 2006. Mary West. "Location-specific sympatric morphological divergence as a possible response to species interactions in West Virginia *Plethodon* salamander communities." Undergraduate Biology Program. Iowa State University, Ames, IA.

Undergraduate Research Students (53) (*Undergraduate Honor's students)

Stanley Barbel, Philip Bice, Nathan Bond, Kally Boyer, David Brady, Patricia Buck, Brooke Busse, Kayla Cain, Ashley Connor, Joi Davis, Nicolas Dimenstein, Andrew Flander, Adam Frakes, Marinda Gacke, Nadya Gonzalez, Julie Graesch (nee Perrett), Tiffany Gummert, Samantha Hadrock, McKenna Hansel, Mary Harmon, Elizabeth Heldt, Sidney Hofmann, Aubrie James, Kayla Kaasa, Jessica Kissner, Dana Korneisel, Katie Kramer, Nicole Laurito, Nicole Lindsey, Sara Luchtel, Andrea Mallarino, Sarah Marsteller, Lauren Mellenthin, Clayton Michael, Giselle Narvaez, Andrea Oake, Samantha Pike, Kevin Quinteros, Jorge Rivera, Della Rivera Casanova, Kristopher Rhodes, Heather Sanders, Daniel Schnadt, Nicole Seda*, Sydney Seng*, Megan Steffen, Erika Suesmith, Alyssa Torseth, Audri Weaver, Mary West*, Katherine Weigert, Morgan Young, Meredith Zipse

Postdoctoral Associates (4)

Dr. Michael Collyer (2003-2007)
 Dr. Antigoni Kaliontzopoulou (2011-2015)
 Dr. Gabriel Rivera (2010-2012)

Dr. Emma Sherratt (2013-2014)

Sabbatical Visitors

(1)

Dr. Marty Condon (2005)

Visiting Scientists (Last 10 Years)

Dr. Carl Anthony (John Carroll U.); Jimena Bohórquez-Herrera (Mexico), Dr. Marty Condon (Cornell College); Dr. Nicolás Jaramillo (U. Antioquia, Colombia); Antigoni Kaliontzopoulou (Universidad de Barcelona); Dr. Germán Manríquez (U. Chile); Dr. Dan Meinhardt (U. Wisconsin-Green Bay); Heather Axen (Cornell College); Michael Collyer (North Dakota State U.); Jessica Harrison (Cornell College); Cari Hickerson (Cleveland State U.); Johan Hollander (Göteborg U.: Sweden); Trevor Krabbenhoft (U. South Carolina); Sara Marsteller (Cornell College); Michael Martinus (Cornell College); Roberta Graboski Mendes (Brazil); Luisa Páez (U. de Los Andes: Colombia); Kristopher Rhodes (Cornell College); Pilar SantaMaria (U. de Los Andes: Colombia)

PROFESSIONAL SERVICE (SELECT)

2017 – present. Executive Vice President. *Society for Systematic Biologists*.

2015 – present. Editorial Board. *Journal of Evolutionary Biology*.

2013 – 2016. Editorial Board. *Evolution*.

2013. Chair of Rohlf Medal Committee. Stony Brook University.

2010 – 2014. Editorial Board. *BMC Evolutionary Biology*.

2009 – 2014. Associate Editor. *American Naturalist*.

2004 – 2009. Associate Editor. *Herpetologica*.

2011. Member, Rohlf Medal Committee. Stony Brook University. 2011. Chair of Awards committee for student presentations: Stoye Award in General Herpetology (Joint Annual Meetings of ASIH, HL, and SSAR)

2008. Award Judge for student presentations: Storer Award in General Herpetology (Joint Annual Meetings of ASIH, HL, and SSAR)

2007. National Science Foundation Panel (BIO), Washington, DC.

2006. Organizer: Geometric Morphometrics Workshop, Iowa State University.

Reviewer of Grant Proposals for (>35 total)

Austrian Research Fund, Graduate Women in Science Fellowship, National Science Foundation

Reviewer of Manuscripts (> 300 total)

American Naturalist, Amphibia-Reptilia, Anatomical Record, Animal Behaviour, Annals of the Entomological Society of America, Animal Behaviour, Bioinformatics, Biological Journal of the Linnean Society, BMC Evolutionary Biology, Bulletin of Entomological Research, Copeia, Ecography, Ecology, Evolution, Evolutionary Ecology Research, Evolution Education and Outreach, Freeman Publishers, Herpetologica, Herpetological Journal, Hydrobiologia, Journal of Animal Ecology, Journal of Environmental Management, Journal of Evolutionary Biology, Journal of Fish Biology, Journal of Heredity, Journal of Human Evolution, Journal of Microbiological Methods, Journal of Morphology, Infection Genetics and Evolution, Italian Journal of Zoology, Methods in Ecology and Evolution, Molecular Ecology Resources, Naturwissenschaften, Oikos, Paleobiology, PLoS One, Proceedings of the National Academy of Sciences, Systematic Biology, Systematic Botany, Taylor and Francis Publishers, Transactions of the American Fisheries Society, Trends in Ecology and Evolution, ZooTaxa

Reviewer of Promotion/Tenure (12 total)

SUNY Stony Brook, University of Michigan, University of Wisconsin (Green Bay), John Carroll University (2), Bucknell University, University of Tennessee (2), University of Massachusetts (Boston), Oregon State University, University of Vienna, University of Oklahoma

University Service (Select)

- 2013 – 2014. Chair. Committee for ‘Sustainability’ Signature Themes Workshop, College of Liberal Arts & Sciences.
2013. EEOB Department: Chair of faculty search committee (macroevolution).
2013. Member. Committee for ‘Big Data’ Signature Themes Workshop, College of Liberal Arts & Sciences.
- 2013 – 2016. Member. Steering Committee for Signature Themes Workshops, College of Liberal Arts & Sciences.
- 2012 – 2015. EEB Graduate Program: Admissions Committee.
- 2012 – present. EEOB Department: Chair of Honors and Awards Committee.
- 2010 – 2013. Chair. Academic Standards and Admissions Committee, College of Liberal Arts & Sciences.
- 2010 – 2013. Member. Faculty Senate Academic Standards and Admissions Committee.
- 2010 – 2013. Member. Representative Assembly, College of Liberal Arts & Sciences.
- 2005 – 2011. EEOB Department: Faculty mentor for Assistant Professor.
- 2001 – present. Faculty Member: EEB graduate program.
- 2001 – present. Faculty Member: BCB graduate program.
- 2008 – 2009. Faculty mentor for graduate student: PFF program (preparing future faculty).
- 2008 – 2009. Chair, Academic Standards and Admissions Committee. College of Liberal Arts & Sciences.
- 2008 – 2009. Member. Faculty Senate Academic Standards and Admissions Committee.
- 2007 – 2008. Member. Academic Standards and Admissions Committee, College of Liberal Arts & Sciences.
- 2010 – 2012. EEOB Department: Member of Honors and Awards Committee.
2008. EEOB Department: faculty search committee (ecological/evolutionary theory).
- 2006 – 2009. EEOB Department: Chair of EEB/EEOB Seminar Series.
- 2003 – 2009. EEOB Department: Faculty Advisor for Graduate Student Organization.
2006. EEOB Department: faculty search committee (ecology and evolution).
2005. EEOB Department: faculty search committee (theoretical biology).

PROFESSIONAL AFFILIATIONS

American Society of Ichthyologists and Herpetologists, American Society of Naturalists, Herpetologist's Society for the Study of Evolution, Society of Systematic Biologists

INVITED PRESENTATIONS AND SYMPOSIA

2017. Field Museum of Natural History.
2017. *University of Idaho.*
2016. **Keynote Address.** 9th *Symposium national de Morphométrie et Evolution des Formes, France.*
2016. *National Museum of Natural Sciences, Spain.*
2015. *University Bourgogne, France.*
2015. *University of Reno, Nevada.*
2014. *University of Toronto.*
2013. *Western Kentucky University.*
2012. *Centro de Investigação em Biodiversidade e Recursos Genéticos(CIBIO), Portugal.*
2012. *Ohio University*
2011. *University of Minnesota.*
2010. *7th International Symposium on the Lacertids of the Mediterranean Basin., Spain.*
2010. *Hull-York Medical School, York, England.*
2010. *Museo di Storie Naturale, Università degli Studi di Firenze, Italy.*

2008. *University of Iowa.*
2007. *Brigham Young University.*
2007. *Fifth Conference on the Biology of Plethodontid Salamanders.* Mexico.
2007. *National Museum of Natural History, Smithsonian Institution.* Washington, D.C.
2005. *John Carroll University,* Cleveland, Ohio.
2005. *Cornell College,* Mounty Vernon, Iowa.
2004. *Universidad de Los Andes,* Bogotá, Colombia.
2004. *Texas A&M University,* College Station, Texas.
2004. *Cornell College,* Mounty Vernon, Iowa.
2003. *Washington University Saint Louis,* St. Louis, Missouri.
2002. *International Congress of Systematic and Evolutionary Biology (ICSEB) VI,* Greece.
2001. *University of Iowa.*
2001. *University of Nebraska-Lincoln.*
2000. *Iowa State University.*
1999. *Indiana State University.*
1999. *Brigham Young University.*
1998. *Instituto de Investigação Agrária e Extensão Rural, Estação Agronómica Nacional,* Portugal.