

SONIA M. ALTIZER

CURRICULUM VITAE

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PROFESSIONAL PREPARATION

- 1988-1992 Duke University, B.S. in Biology, graduated with honors
- 1993-1998 University of Minnesota, Ph.D. in Ecology. Thesis: Ecological and evolutionary interactions between monarch butterflies and a protozoan parasite (Advisors: Karen Oberhauser and Don Alstad)
- 1999-2000 Princeton University, Science and Technology Postdoctoral Fellow, Department of Ecology and Evolutionary Biology. (Mentors: Andy Dobson and Dan Rubenstein)
- 2000-2001 Cornell University, Postdoctoral Research Associate. Laboratory of Ornithology. (Mentor: André Dhondt)

FACULTY POSITIONS

- 8/23-present **Martha Odum Distinguished Professor of Ecology**, Odum School of Ecology, University of Georgia
- 8/14 – 8/23 **Georgia Athletic Association Professor of Ecology**, Odum School of Ecology, University of Georgia.
- 8/08 – 7/14 **Associate Professor**, Odum School of Ecology, University of Georgia.
- 9/05 – 8/08 **Assistant Professor**, Odum School of Ecology (formerly Institute of Ecology), University of Georgia.
- 9/01 – 8/05 **Assistant Professor**, Department of Environmental Studies, Emory University.

HONORS AND AWARDS

- 2023 SEC Academic Leadership Development Program Faculty Fellow
- 2020 Elected Fellow of the American Association for the Advancement of Science (AAAS)
- 2018 Lamar Dodd Creative Research Award, UGA Office of the Vice President for Research
- 2017 UGA Womens' Leadership Faculty Fellow, Office of the Provost and Faculty Affairs
- 2016 Lothar Tresp Outstanding Honors Professor Award, UGA Honors College
- 2015 Finalist, Outstanding Graduate Mentor Award in the Life Sciences, UGA Graduate School
- 2014 Dean's Award, Odum School of Ecology (for outstanding service to the unit)

- 2013 Outstanding Faculty Instructor Award, Odum School of Ecology, University of Georgia
- 2011 Wissenschaftskolleg zu Berlin Fellowship (visiting scholar award from the Institute for Advanced Study in Berlin, declined owing to FMLA leave)
- 2008 Presidential Early Career Award for Science and Engineering (PECASE); awarded annually by the White House to ~60 early career scientists and engineers
- 2008 Award for Teaching Excellence, Odum School of Ecology, University of Georgia
- 2003 Teaching Excellence Award, Phi Beta Kappa, Emory University Chapter
- 2001 Royal Entomological Society of London Award - best paper in Society's Journals

RESEARCH INTERESTS

Ecology of infectious diseases, especially in relation to animal movement, social behavior, and global environmental change; evolution of host resistance and parasite virulence; insect ecology; pollinator conservation

RESEARCH IMPACT SUMMARY

Dr. Altizer has published 3 books, 23 book chapters or technical reports, and 123 peer-reviewed journal articles, including 8 papers in *Nature/Science/PNAS*. Her work has been cited over 21,000 times according to Google Scholar, with an H-index of 64 and an i_{10} -index of 120 as of 12/2023. Altizer's publications have been highlighted in news stories and radio segments in *Science*, *PNAS*, *New York Times*, *NPR*, *BBC*, *National Geographic*, *NBC Today Show*, and other outlets. She has served as lead or co-PI on grants and contracts that brought over \$7M to her home institution over the past 18 years. She has advised or co-advised 25 graduate students, 7 postdocs, and over 70 undergraduates.

GRANTS AND CONTRACTS (selected)

National Science Foundation Research Grant (Coupled Natural and Human Systems). 10/1/2019-3/31/2024. \$1,599,933. *CNH2-L: Social and ecological determinants of multi-host vector-borne infections in dynamic tropical landscapes*. PI: J. Drake. Co-PIs: N. Gottdenker, J.P. Schmidt, S. Tanner, and J. Velasquez-Runk. (Altizer is senior personnel)

National Science Foundation REU Site Program Grant. 2/1/2017-1/31/2024. \$527,256. *REU Site: Population Biology of Infectious Diseases*. PI: J. Drake. Co-PIs: M. Strand, S. Altizer.

National Science Foundation Research Grant (Population and Community Ecology). 6/1/2018 – 5/30/2024. \$423,342 (UGA portion). *Collaborative Research: How do shifts from migratory to sedentary behavior alter host-parasite dynamics?* Lead PI: Sonia Altizer. Co-PIs: R.J. Hall, J.C. de Roode, C. Taylor, and K. Oberhauser.

National Science Foundation Conference Award. \$20,000. *New Frontiers in Animal Behavior and Parasitism*. 5/1/20-4/30/22. Lead PI: Sonia Altizer. Co-Ps Vanessa Ezenwa and Richard Hall.

Strategic Environmental Research and Development Program (SERDP) Grant (U.S. Department of Defense), 5/1/2017-7/30/2022. \$2.2 million (Altizer portion \$282,000). *Will climate-mediated phenological shifts affect population viability? A test with butterflies on Department of Defense lands*. PI: Elizabeth Crone. Co-PIs: Sonia Altizer, Cheryl Shultz, Diane Debinski.

- National Science Foundation Research Grant** (Ecology and Evolution of Infectious Diseases). \$2.1 million (Altizer portion \$191,000). *Consequences of anthropogenic resources for the cross-scale dynamics of an enteric pathogen in an avian host*. 9/1/15-5/30/23. PI: Sonia Hernandez. Co-PIs Sonia Altizer, Richard Hall, Kristen Navara, Jeff Hepinstall-Cymerman.
- National Science Foundation RCN Grant**. (Ecology and Evolution of Infectious Diseases). \$500,000. 9/1/2013-12/30/19. *RCN Proposal: Macroecology of Infectious Disease*. Lead-PI: Patrick Stephens; Co-PIs: Sonia Altizer, Robert Poulin, Katherine Smith, Alonso Aguirre.
- U.S. Forest Service Contract**. 12/1/12 – 12/31/13. \$8550. *North American Monarch Institute Conservation and Education Workshop*. PI: Karen Oberhauser. Co-PI: Sonia Altizer.
- National Science Foundation Research Grant** (Population and Community Ecology). 9/01/10-8/30/14. \$579,908. *Demographic and behavioral responses to resource shifts and the transmission of rabies in vampire bats*. PI: Sonia Altizer. Co-PI: Pej Rohani, Daniel Streicker
- National Science Foundation CAREER Grant** (Population and Community Ecology). 2/01/07-1/31/13. \$679,492. *CAREER: Animal migrations and infectious disease dynamics: monarch butterflies as a global case study*. PI: Sonia Altizer
- US Fish and Wildlife Service Great Ape Conservation Fund Award**. 8/26/11-9/30/13. \$31,292. Close-contact pathogens, sexually transmitted diseases, and African ape conservation. PI: S. Altizer, co-PI: Rebecca Stumpf, Julie Rushmore.
- National Science Foundation Workshop Award** (Ecology and Evolution of Infectious Diseases). 9/1/07-8/31/12. \$371,751. *Training Workshops on the Ecology and Evolution of Infectious Diseases*. PI: Mike Antolin. Co-PIs: Sonia Altizer, Drew Harvell, Pete Hudson, Mary Poss.
- Commission for Environmental Cooperation Grant**. 4/15/09-7/31/09. \$24,000. *Collaborative online approaches to sharing and integrating monarch monitoring data within North America*. Co-PIs: Sonia Altizer, Karen Oberhauser, Leslie Ries, Andy Davis.
- CDC-UGA Seed Grant Award**. 2/1/09-1/30/11. \$85,000 *Ecological and anthropogenic drivers of vampire bat-transmitted rabies outbreaks*. PI: Sonia Altizer. Co-PIs: Pej Rohani, Charles Rupprecht, Daniel Streicker
- Conservation International**. 1/1/06-4/30/08. *The role of pathogens in mammalian conservation*. \$32,300 (FY 2006) and \$13,000 (FY 2007). PIs: Sonia Altizer, Charlie Nunn, Andrew Dobson, John Gittleman
- Southeastern Center for Emerging Biological Threats**. 5/1/05 – 8/31/06. \$48,815. *Emerging diseases in urban landscapes: the ecology of two zoonotic pathogens in their avian reservoir hosts*. PI: Sonia Altizer. Co-PIs: David Stallknecht, Samantha Gibbs, Robert Tauxe, Susan Parker.
- National Science Foundation Research Grant** (Population and Community Ecology). 7/15/02 – 7/15/05. \$190,000. *Understanding the diversity of parasites and infectious diseases in three mammalian orders*. PI: Sonia Altizer. Co-PI: Charlie Nunn.
- National Science Foundation Research Grant** (Ecology and Evolution of Infectious Diseases). 10/15/02 – 8/30/05. \$64,748 subcontract. *Dynamics of an emerging disease in an introduced host*. Lead PI: Dr. André Dhondt, Cornell Laboratory of Ornithology. Subcontract PI: Sonia Altizer

PUBLICATIONS

(Graduate, undergraduate and postdoctoral coauthors underlined)

1. Books

1. Nunn, C.L. and **Altizer, S.** 2006. *Infectious Diseases in Primates: Behavior, Ecology and Evolution*. Oxford Series in Ecology and Evolution, Oxford University Press.

2. Books edited or co-edited

1. Ezenwa, V.O., **Altizer, S.**, and Hall, R.J. 2022. *Animal Behavior and Parasitism*. Oxford University Press.
2. Oberhauser, K., Nail, K., and **Altizer, S.** 2015. Edited volume. *Monarchs in a Changing World: Biology and Conservation of an Iconic Insect*. Cornell University Press. \

3. Book chapters, popular articles and technical reports

23. Ezenwa, V.O, **Altizer, S.**, and Hall, R.J. 2022. Animal behavior and parasitism: where have we been, where are we going? In: *Animal Behavior and Parasitism*. Ezenwa, V.O., Altizer, S., and Hall, R.J. Oxford University Press.
22. Hall, RJ, **Altizer, S.**, Peacock, SJ and Shaw, AK. 2022. Animal migration and infection dynamics: recent advances and future frontiers. In: *Animal Behavior and Parasitism*. Ezenwa, V.O., Altizer, S., and Hall, R.J. Oxford University Press.
21. De Roode, J.C., **Altizer, S.**, and Hunter, M. 2019. Multi-trophic interactions and migration behaviour determine the ecology and evolution of parasite infection in monarch butterflies. In: *Wildlife Disease Ecology: Linking Theory to Data and Application*. Edited by K. Wilson and A. Fenton. Cambridge University Press.
20. **Altizer, S.**, Teitelbaum, C.S., Hall, R.J. 2019. Animal Migration and Parasitism. In: Choe, J.C. (Ed.), *Encyclopedia of Animal Behavior*, (2nd ed.). vol. 2, pp. 756–763. Elsevier, Academic Press.
19. Davis, A. and **Altizer, S.** 2015. New perspectives on monarch migration, evolution and population biology. In: *Monarchs in a Changing World: Biology and Conservation of an Iconic Insect*. Edited by: K. Oberhauser, S. Altizer, K. Nail. Cornell University Press.
18. **Altizer, S.** and DeRoode, J.C. 2015. Monarchs and their debilitating parasites: immunity, migration and medicinal plant use. In: *Monarchs in a Changing World: Biology and Conservation of an Iconic Insect*. Edited by: K. Oberhauser, S. Altizer, K. Nail. Cornell University Press.
17. Pierce, A.A., Chamberlain, N.L., Kronforst, M.R., **Altizer, S.** and J.C. DeRoode. 2015. Unraveling the mysteries of monarch migration and global dispersal through molecular genetic techniques. In: *Monarchs in a Changing World: Biology and Conservation of an Iconic Insect*. Edited by: K. Oberhauser, S. Altizer, K. Nail. Cornell University Press.
16. Han, B. and **Altizer, S.** 2012. Conservation and Infectious Disease. In: Levin, S. (ed) *Encyclopedia of Biodiversity*. 2nd Edition. Academic Press, San Diego, CA.
15. Bartel, R. and **Altizer, S.** 2012. From protozoan infection in monarch butterflies to colony collapse disorder in bees: are emerging infectious diseases proliferating in the insect world? In: *Conservation Medicine: Applied Cases of Ecosystem Health*. Second edition. Edited by: A. Aguirre, P. Daszak and R. Ostfeld. Oxford University Press.
14. Kilpatrick, A.M. and **Altizer, S.** 2010. Disease Ecology. *Nature Education Knowledge*. 1(12):13

13. **Altizer, S.** and DeRoode, J.C. 2010. When butterflies get bugs: the ABCs of Lepidopteran disease. *American Butterflies*. 18(2): 16-26.
12. Davis, A.K., **Altizer, S.**, Oberhauser, S. Ries, L., Frey, D., Crewe, T, Howard, A., Rendon-Salinas, E., Bartel, R., Batalden, R., and Nibbelink, N. 2009. Recommendations for integrating monarch butterfly monitoring data in North America to address conservation and management needs. *Final Report to the Commission for Environmental Cooperation*. July 2009.
11. **Altizer, S.** and Pedersen, A. 2008. Host-pathogen evolution, biodiversity and disease risks for natural populations. Pp. 259-278. In: "*Conservation Biology: Evolution in Action*" edited by Scott Carroll and Charles Fox. Oxford University Press.
10. Perkins, S., **Altizer, S.**, Bjornstad, O., Burdon, J., Clay, K., Gomez-Aparicio, L., Jeschke, J., Johnson, P., Lafferty, K., Malstrom, C., Martin, P., Power, A., Thrall, P., Strayer, D. and M. Uriarte. 2008. Infectious disease in invasion biology. In R. Ostfeld, F. Keesing and V. Eviner (eds.), *Infectious disease ecology: Effects of disease on ecosystems and of ecosystems on disease*. Princeton University Press.
9. Nunn, C.L. and **Altizer, S.M.** 2004. Sexual selection, behavior and sexually transmitted diseases. In: *Sexual Selection in Primates: New and Comparative Perspectives*. P.M. Kappeler and C.P. van Schaik (eds). Cambridge University Press.
8. **Altizer, S.M.**, Oberhauser, K.O., and Geurts, K.A. 2004. Transmission of the protozoan parasite, *Ophryocystis elektroscirrha*, in monarch butterfly populations: implications for prevalence and population-level impacts. In: Oberhauser, K.S. and Solensky, M. (eds). *The Monarch Butterfly: Biology and Conservation*. Cornell University Press.
7. Borland, J., Johnson, C., Crumpton, T., Thomas, M., **Altizer, S.**, and Oberhauser, K. 2004. Characteristics of fall migratory monarch butterflies in Minnesota and Texas. In: Oberhauser, K.S. and Solensky, M. (eds). *The Monarch Butterfly: Biology and Conservation*. Cornell University Press.
6. Fofopoulos, J., **Altizer, S.**, and Dobson, A. 2002. Interactions between wildlife and domestic livestock in the tropics. Pp. 219-244. In: Vandermeer, J. (ed) *Tropical Agroecosystems*. CRC Press.
5. Davis, A. and **Altizer, S.** 2002. Southern exposure. *Birdscope* (a publication of the Cornell Laboratory of Ornithology). Spring 2002 issue.
4. Dhondt, A.A., Hochachka, W.M., **Altizer, S.M.**, and Hartup, B.K. 2001. The house finch hot zone: citizen science on the trail of an epidemic. *Living Bird*. 20(4): 24-30.
3. **Altizer, S. M.** and Dobson, A.D. 2001. Pathogens and the conservation of island biota: Modeling the biological control of invasive brown treesnakes on Guam. *Final report to the USGS Biological Resources Division, National Wildlife Health Center*, June 2001.
2. **Altizer, S.**, Fofopoulos, J., and Gager, A. 2000. Conservation and Disease. In: Levin, S. (ed) *Encyclopedia of Biodiversity*. Academic Press, San Diego, CA.
1. **Altizer, S.M.**, Oberhauser, K.S., and Brower, L.P. 1999. Host migration and prevalence of the protozoan parasite, *Ophryocystis elektroscirrha*, in natural populations of adult monarch butterflies. In: Hoth, J., Merino, L, Oberhauser, K., Pisanty, I., and Price, S. (eds) *Proceedings of the North American Conference on the Monarch Butterfly*. Commission for Environmental Cooperation, Montréal.

4. Papers published in scholarly journals

123. Ragonese, I., Sarker, M., Hall, R.J. and **Altizer, S.** 2024. Extreme heat reduces host and parasite performance in a butterfly-parasite interaction. *Proceedings of the Royal Society B: Biological*

Sciences. In press.

122. Kendzel, M., **Altizer, S.**, and de Roode, J.C. 2023. Interactions between parasitism and migration in monarch butterflies. *Current Opinion in Insect Science*. 59: 101089
121. Prouty, C., Bartlett, L.J., Krischik, V. and **Altizer, S.** 2023. Adult monarch butterflies show high tolerance to neonicotinoid insecticides. *Ecological Entomology*. 48: 531-543.
120. Aikins, C., **S Altizer**, T Sasaki. 2023. Neither copy nor avoid: no evidence for social cue use in monarch butterfly oviposition site selection. *Journal of Insect Behavior*, 36:33–44.
119. Sánchez, C.A., Penrose, M.T., Kessler, M.K., Becker, D.J., McKeown, A., Hannappel, M., Boyd, V., Camus, M.S., Padgett-Stewart, T., Hunt, B.E., Graves, A.F., Peel, A.J., Westcott, D.A., Rainwater, T.R., Chumchal, M.M., Cobb, G.P., **Altizer, S.**, Plowright, R.K., and Boardman, W.S.J. 2022. Land use, season, and parasitism predict metal concentrations in Australian flying fox fur. *Science of the Total Environment*, 841, p.156699.
118. Majewska, A.A., Davis, A.K., **Altizer, S.** and de Roode, J.C., 2022. Parasite dynamics in North American monarchs predicted by host density and seasonal migratory culling. *Journal of Animal Ecology*, 91(4), pp.780-793. **Cover article
117. Teitelbaum, C.S., **Altizer, S.** and Hall, R.J., 2022. Habitat specialization by wildlife reduces pathogen spread in urbanizing landscapes. *The American Naturalist*, 199(2), pp.238-251.
116. Prouty, C., Barriga, P., Davis, A.K., Krischik, V. and **Altizer, S.**, 2021. Host plant species mediates impact of neonicotinoid exposure to monarch butterflies. *Insects*, 12(11), p.999.
115. Sánchez, C.A., Ragonese, I.G., de Roode, J.C. and **Altizer, S.**, 2021. Thermal tolerance and environmental persistence of a protozoan parasite in monarch butterflies. *Journal of Invertebrate Pathology*, 183, p.107544.
114. Becker, D.J., Broos, A., Bergner, L.M., Meza, D.K., Simmons, N.B., Fenton, M.B., **Altizer, S.** and Streicker, D.G., 2021. Temporal patterns of vampire bat rabies and host connectivity in Belize. *Transboundary and Emerging Diseases*, 68(2), pp.870-879.
113. Teitelbaum, C.S., Hepinstall-Cymerman, J., Kidd-Weaver, A., Hernandez, S.M., **Altizer, S.** and Hall, R.J., 2020. Urban specialization reduces habitat connectivity by a highly mobile wading bird. *Movement Ecology*, 8(1), pp.1-13.
112. Sánchez, C.A., **Altizer, S.** and Hall, R.J., 2020. Landscape-level toxicant exposure mediates infection impacts on wildlife populations. *Biology Letters*, 16(11), p.20200559.
111. Satterfield, D.A., Sillett, T.S., Chapman, J., **Altizer, S.**, Marra, P. 2020. Seasonal movements of insects: massive, influential, and overlooked. *Frontiers in Ecology and the Environment*. 18(6): 335-344.
110. Schroeder, H., Majewska, A. and **Altizer, S.**, 2020. Monarch butterflies reared under autumn-like conditions have more efficient flight and lower post-flight metabolism. *Ecological Entomology*. 45(3): 562-572
109. Becker, D., Speer, K., Brown, A., Fenton, M.B., Washburne, A., **Altizer, S.**, Streicker, D., Plowright, R., Chizhikov, V., Simmons, N.B. and Volokhov, D., 2020. Ecological and evolutionary drivers of hemoplasma infection and bacterial genotype sharing in a Neotropical bat community. *Molecular Ecology*. 29(8): 1534-1549
108. Majewska, A.A. and **Altizer, S.** 2020. Planting gardens to support insect pollinators. *Conservation Biology*. 34: 15-25

107. Teitelbaum, C., Altizer, S., Hall, R.J. 2020. Movement rules determine nomadic species' responses to resource supplementation and degradation. *Journal of Animal Ecology*. 89:2644–2656.
106. Majewska, A.A. and Altizer, S., 2019. Exposure to non-native tropical milkweed promotes reproductive development in migratory monarch butterflies. *Insects*, 10(8), p.253.
105. Majewska, A.A., Schneider, A., Simms, S., Altizer, S., and Hall, R.J. 2019. Multiple transmission routes sustain high prevalence of a virulent parasite in a butterfly host. *Proceedings of the Royal Society B: Biological Sciences*. 286 (1910), 20191630.
104. Herrera, J., Rushmore, J., Chakraborty, D., Altizer, S., and Nunn, C.L. 2019. The changing ecology of primate parasites: insights from wild-captive comparisons. *American Journal of Primatology*. 81(7), e22991
103. Majewska, A.A., Satterfield, D.A., Harrison, R.B., Altizer, S., and Hepinstall-Cymerman, J. 2019. Urbanization predicts infection risk by a protozoan parasite in monarch butterflies from the southern U.S. and Hawaii. *Landscape Ecology*. 34 (3), 649-661
102. Agrawal, A.A., Altizer, S., Hunter, D., Marra, P.P. and Wolf, S.A., 2019. Conservation of declining migratory animals: An interdisciplinary analysis of biology, sociology, and policy. *OSF Preprints* (<https://osf.io/preprints/>).
101. Becker, D.J., Nachtmann, C., Argibay, H.D., Botto, G., Gábor D., Czirják, A., Escalera-Zamudio, M., Carrera J.E., Tello, C., Winiarski, E., Greenwood, A.D., Rojas-Anaya, E., Loza-Rubio, E., Lavergne, A., de Thoisy, B., Plowright, R., Altizer, S., Streicker, D.G. 2019. Leukocyte profiles reflect geographic range limits in a widespread Neotropical bat. *Integrative and Comparative Biology*. 59: 1176-1189.
100. Stephens, P.R., Altizer, S., Ezenwa, V., Gittleman, J.G., Moan, E., Han B., Huang, S., and Pappalardo, P. 2019. Parasite sharing in wild ungulates and their predators: effects of phylogeny, range overlap, and trophic links. *Journal of Animal Ecology*. 88:1017–1028.
99. Becker, D.J., Snedden, C.E., Altizer, S. and Hall, R.J. 2018. Host dispersal responses to resource supplementation determine pathogen spread in wildlife metapopulations. *American Naturalist*. 192 (4), 503-51797.
98. Becker, D.J., Bergner, L.M., Bentz, A.B., Orton, R.J, Altizer, S., and Streicker, D.G. 2018. Genetic diversity, infection prevalence, and possible transmission routes of *Bartonella* spp. in vampire bats. *PLoS Neglected Tropical Diseases*. 12(9): e000678696.
97. Sánchez, C.A., Becker, D.J., Teitelbaum, C.S., Barriga, P., Brown, L.M., Majewska, A.A., Hall, R.J. and Altizer, S., 2018. On the relationship between body condition and parasite infection in wildlife: a review and meta-analysis. *Ecology Letters*, 21(12), pp.1869-1884.
96. Becker, D.J., Teitelbaum, C.S., Murray, M.H., Curry, S.E., Welch, C.N., Ellison, T., Adams, H.C., Rozier, R.S., Lipp, E.K., Hernandez, S.M., Altizer, S. and Hall, R.J. 2018. Assessing the contributions of intraspecific and environmental sources of infection in urban wildlife: *Salmonella enterica* and white ibis as a case study. *Journal of the Royal Society Interface*, 15(149), p.20180654.
95. Becker, D.J., Hall, R.J., Forbes, K.M., Plowright, R.K., and Altizer, S. 2018. Anthropogenic resource subsidies and host–parasite dynamics in wildlife. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 373(1745): 20170086.
94. Teitelbaum, C., Huang, S., Hall, R.J., and Altizer, S. 2018. Migratory behavior predicts greater parasite diversity in ungulates. *Proceedings of the Royal Society B: Biological Sciences*, 285 (1875), 20180089
93. Satterfield, D., Maerz, J.C., Hunter, M.D., Flockhart, D.T.T., Hobson, K., Norris, D.R., Streit, H., de

- Roode, J.C., and **Altizer, S.** 2018. Migratory monarchs that encounter resident monarchs show life-history changes and higher rates of parasite infection. *Ecology Letters*, 21(11), pp.1670-1680
92. **Altizer, S., Becker, D.J., Epstein, J., Forbes, K., Gillespie, T., Hall, R.J., Hawley, D., Hernandez, S., Martin, L.M., Plowright, R., Satterfield, D. and Streicker, D.S.** 2018. Food for contagion: synthesis and future directions for studying host–parasite responses to resource shifts in anthropogenic environments. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 373(1745), p.20170102.
91. **Majewska, A., Simms, S., Davis, A.K., and Altizer, S.** 2018. Do characteristics of pollinator-friendly gardens predict the diversity, abundance and reproduction of butterflies? *Insect Conservation and Diversity*, 11(4): 370-382.
90. **Satterfield, D., Marra, P., Silett, S., and Altizer, S.** 2018, Responses of migratory species and their pathogens to supplemental feeding. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 373(1745), p.20170094.
89. **Becker, D.J., Gabor, A.C., Volokhov, D., Bentz, A.B., Carrera, J.E., Camus, M.S., Navara, K.J., Chizhikov, V.E., Fenton, B., Simmons, N.B., Gilbert, A.T., Recuenco, S.E., Altizer, S., and Streicker, D.G.** 2018. Livestock expansion predicts vampire bat demography, immune profiles, and bacterial infection risk. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 373: 20170089
88. **Becker, D., Streicker, D. and Altizer, S.,** 2018. Using host species traits to understand the consequences of resource provisioning for host–parasite interactions. *Journal of Animal Ecology*. 87(2): 511-525
87. **Volokhov, D.V., Becker, D.J., Bergner, L.M., Camu, M.S., Orton, R.J., Chizhikov, V.E., Altizer, S.M., and Streicker, D.G.** 2017. Novel hemotropic mycoplasmas are widespread and genetically diverse in vampire bats. *Epidemiology and Infection*. 145(15): 3154-3167
86. **Thogmartin, W.E., Widerholt, R., Oberhauser, K., Drum, R.G., Diffendorfer, J.E., Altizer, S., Taylor, O.R., Pleasants, J., Semmens, D., Semmens, B., Erickson, R., Libby, K., and Lopez-Hoffman, L.** 2017. Monarch butterfly population decline in North America: identifying the threatening processes. *Royal Society Open Science*. 4(9): 170760
85. **Flockhart, D.T., Fitz-gerald, B., Brower, L.P., Derbyshire, R., Altizer, S., Hobson, K.A., Wassenaar, L.I. and Norris, D.R.,** 2017. Migration distance as a selective episode for wing morphology in a migratory insect. *Movement Ecology*, 5(1), p.7.
84. **Becker, D.J., Chumchal, M.M., Bentz, A.B., Platt, S.G., Czirják, G.Á., Rainwater, T.R., Altizer, S. and Streicker, D.G.,** 2017. Predictors and immunological correlates of sublethal mercury exposure in vampire bats. *Royal Society Open Science*, 4(4), p.170073.
83. **Satterfield, D.A., Altizer, S., Williams, M.K. and Hall, R.J.,** 2017. Environmental persistence influences infection dynamics for a butterfly pathogen. *PloS One*, 12(1), p.e0169982.
82. **Flockhart, D.T., Brower, L.P., Ramirez, M.I., Hobson, K.A., Wassenaar, L.I., Altizer, S. and Norris, D.R.,** 2017. Regional climate on the breeding grounds predicts variation in the natal origin of monarch butterflies overwintering in Mexico over 38 years. 2017. *Global Change Biology*. 23(7): 2565–2576.
81. **Stephens, P.R., Pappalardo, P., Huang, S., Byers, J.E., Farrell, M.J., Gehman, A., Ghai, R.R., Haas, S.E., Han, B., Park, A.W. Schmidt, J.P., Altizer, S, Ezenwa, V.O., and Nunn, C.L.** 2017. Global Mammal Parasite Database version 2.0. *Ecology*. 98(5): 1476-1476.
80. **Hall, R.J., Brown, L.M. and Altizer, S.,** 2016. Modeling vector-borne disease risk in migratory animals under climate change. *Integrative and Comparative Biology*, 56(2): 353-364
79. **McKay, A.F., Ezenwa, V.O. and Altizer, S.,** 2016. Unravelling the costs of flight for immune defenses in

- the migratory monarch butterfly. *Integrative and Comparative Biology*, 56(2):278-289
78. Satterfield, D.A., Villablanca, F.X., Maerz, J.C. and **Altizer, S.**, 2016. Migratory monarchs wintering in California experience low infection risk compared to monarchs breeding year-round on non-native milkweed. *Integrative and Comparative Biology*, 56(2) 343-352
 77. McKay, A.F., Ezenwa, V.O. and **Altizer, S.**, 2016. Consequences of food restriction for immune defense, parasite infection, and fitness in monarch butterflies. *Physiological and Biochemical Zoology*, 89(5), pp.389-401.
 76. Barriga, P.A., Sternberg, E.D., Lefèvre, T., de Roode, J.C. and **Altizer, S.**, 2016. Occurrence and host specificity of a neogregarine protozoan in four milkweed butterfly hosts (*Danaus* spp.). *Journal of Invertebrate Pathology*, 140, pp.75-82.
 75. Streicker, D.G., Winternitz, J.C., Satterfield, D.A., Condori-Condori, R.E., Broos, A., Tello, C., Recuenco, S., Velasco-Villa, A., **Altizer, S.** and Valderrama, W., 2016. Host-pathogen evolutionary signatures reveal dynamics and future invasions of vampire bat rabies. *Proceedings of the National Academy of Sciences*, p.201606587.
 74. Stephens, P.R., **Altizer, S.**, Smith, K.F., Alonso Aguirre, A., Brown, J.H., Budischak, S.A., Byers, J.E., Dallas, T.A., Jonathan Davies, T., Drake, J.M. and Ezenwa, V.O., 2016. The macroecology of infectious diseases: a new perspective on global-scale drivers of pathogen distributions and impacts. *Ecology Letters*, 19(9), pp.1159-1171.
 73. **Altizer, S.**, Hobson, K.A., Davis, A.K., De Roode, J.C. and Wassenaar, L.I., 2015. Do Healthy Monarchs Migrate Farther? Tracking Natal Origins of Parasitized vs. Uninfected Monarch Butterflies Overwintering in Mexico. *PloS One*, 10(11).
 72. Rushmore, J., Allison, A.B., Edwards, E.E., Bagal, U., **Altizer, S.**, Cranfield, M.R., Glenn, T.C., Liu, H., Mudakikwa, A., Mugisha, L., Muller, M.N., Stumpf, R.M., Thompson, M.E., Wrangham, R. & Yabsley, M.J. 2015. Screening wild and semi-free ranging great apes for putative sexually transmitted diseases: Evidence of Trichomonadidae infections. *American Journal of Primatology*, 77 (10), 1075-1085
 71. Han, B., Park, A.W., Jolles, A. and **Altizer, S.** 2015. Behavioral allometry and infectious disease transmission in wild mammals, *Journal of Animal Ecology*, 84.3 (2015): 637-646
 70. Huang, S., Drake, J. M., Gittleman, J. L. and **Altizer, S.** 2015. Parasite diversity declines with host evolutionary distinctiveness: a global scale analysis of carnivores. *Evolution*. 69 (3): 621-630
 69. Becker, D., Streicker, D., and **Altizer, S.** 2015. Linking anthropogenic resources to wildlife-pathogen dynamics: a review and meta-analysis. *Ecology Letters*. 18.5 (2015): 483-495
 68. Satterfield, D., Maerz, J. and **Altizer, S.** 2015. Loss of migratory behavior supports high parasite prevalence in a butterfly host. *Proceedings of the Royal Society Series B*. 1801: 20141734.
 67. Zhan, S., Zhang, W., Niitepõld, K., Hsu, J., Fernández Haeger, J., Zalucki, M., **Altizer, S.**, de Roode, J., Reppert, S., and Kronforst, M. 2014. The genetics of monarch butterfly migration and warning coloration. *Nature*. 514 (7522), 317-321
 66. Pierce, A., Zalucki, M., Banguara, M., Udawatta, M., Kronforst, M., **Altizer, S.**, Fernandez-Haeger, J., and de Roode, J. 2014. Serial founder effects and genetic differentiation during worldwide range expansion of monarch butterflies. *Proceedings of the Royal Society Series B*. 281 (1797), 20142230
 65. Rushmore, J., Caillaud, D., Hall, R.J., Stumpf, R.M., Meyers, L.A. and **Altizer, S.** 2014. Network-based vaccination improves prospects for disease control in wild chimpanzees. *Journal of the Royal Society Interface*. 11(97), 20140349

64. Pierce, A., de Roode, J.C., **Altizer, S.**, and Bartel, R. 2014. Extreme heterogeneity in parasitism despite low population genetic structure among monarch butterflies inhabiting the Hawaiian Islands. *PLoS One*. 9(6), e100061.
63. Cornelius, E., Davis, A.K., and **Altizer, S.** 2014. How important are haemoparasites to migratory songbirds? Evaluating physiological tradeoffs with infection in three neotropical migrants during stopover. *Physiological and Biochemical Zoology* 87(5), 719-728.
62. Winternitz, J.C., Yabsley, M., Wares, J., and **Altizer, S.** 2014. Wild cyclic voles maintain high neutral and MHC diversity independently of parasitism. *Evolutionary Ecology*. 28: 957-975.
61. Hall, R.J., Bartel, R. and **Altizer, S.** 2014. Greater migratory propensity in hosts lowers pathogen transmission and impacts. *Journal of Animal Ecology*. 83: 1068-1077.
60. Huang, S., Bininda-Emonds, O.R.P., Stephens, P.R., Gittleman, J.L., and **Altizer, S.** 2014. Phylogenetically related and ecologically similar carnivores harbor similar parasite assemblages. *Journal of Animal Ecology*. 83(3), 671-680
59. Winternitz, J., Michey, S., Garamszegi, L., Huang, S., Stephens, P., and **Altizer, S.** 2013. Sexual selection explains more functional variation in the mammalian MHC than parasitism. *Proceedings of the Royal Society Series B*. 280(1769), 20131605
58. Blackwood, J.C., Streicker, D.G., **Altizer, S.**, and Rohani, P. 2013. Resolving the roles of immunity, pathogenesis, and immigration for rabies persistence in vampire bats. *Proceedings of the National Academy of Sciences*. 110(51): 20837–20842
57. Sander, S.E., de Roode, J.C., Davis, A.K., and **Altizer, S.** 2013. Genetic factors and host traits predict spore morphology for a butterfly pathogen. *Insects*. 4: 447-462.
56. **Altizer, S.**, Ostfeld, R.S., Harvell, C.D., Johnson, P.T.J., and Kutz, S. 2013. Climate change and infectious disease: from evidence to a predictive framework. *Science*. 341: 514-519.
55. Satterfield, D., Wright, A. and **Altizer, S.** 2013. Lipid reserves trade off against immune defense in healthy and diseased migrating monarchs (*Danaus plexippus*). *Current Zoology*, 59: 393-402.
54. J. Rushmore, D. Caillaud, L. Matamba, R. M. Stumpf, S. P. Borgatti, and **S. Altizer**. 2013. Social network analysis of wild chimpanzees with insights for infectious disease risk. *Journal of Animal Ecology*, 82: 976-986.
53. Streicker, D.G., **Altizer, S.**, Velasco-Villa, A., and Rupprecht, CE. 2012. Variable evolutionary routes to host establishment across repeated rabies virus host shifts among bats. *Proceedings of the National Academy of Sciences*, 109 (48): 19715-20; doi: 10.1073/pnas.1203456109
52. Streicker, D.G., Recuenco, S., Valderrama, W., Gomez-Benavides, J., Vargas, I., Pacheco, V., Condori, R.E, Montgomery, J., Rupprecht, C.E., Rohani, P. and **Altizer, S.** 2012. Ecological and anthropogenic drivers of rabies exposure in vampire bats: implications for transmission and control. *Proceedings of the Royal Society Series B*. 279(1742):3384-92.
51. Davis, A.K., J. Chi, C. Bradley and **S. Altizer**. 2012. The redder the better: wing color predicts flight performance in monarch butterflies. *PLoS One*, 7: e41323.
50. Winternitz, J.C., Yabsley, M. and **Altizer, S.** 2012. Parasite infection and host dynamics in a naturally fluctuating rodent population. *Canadian Journal of Zoology*. 90(9): 1149-1160.
49. Bartel, B., Oberhauser, K., DeRoode, J. and **Altizer, S.** 2011. Monarch butterfly migration and parasite transmission in eastern North America. *Ecology*. 92, 342-351 ****Cover article**
48. **Altizer, S.**, Bartel, B. and Han, B. 2011. Animal migrations and infectious disease risk. *Science*. 331:

296-302.

47. Hawley, D.M. and **Altizer, S.** 2011. Disease ecology meets ecological immunology: Understanding the links between organismal immunity and infection dynamics in natural populations. *Functional Ecology*, 25: 48-60
46. **Altizer, S.**, and Davis, A.K. 2010. Populations of monarch butterflies with different migratory behaviors show divergence in wing morphology. *Evolution*. 64:1018-1028. ****Cover article**
45. DeRoode, J.C. and **Altizer, S.** 2010. Host-parasite genetic interactions and virulence-transmission relationships in natural populations of monarch butterflies. *Evolution*. 64:502-514.
44. De Roode, J.C., Chi, J., Rarick, R.M., and **Altizer, S.** 2009. Strength in numbers: high parasite burdens increase transmission of a protozoan parasite of monarch butterflies. *Oecologia*. 161:67-75.
43. Lindsey, E., Mehta, M., Dhulipala, V., Oberhauser, K. and **Altizer, S.** 2009. Crowding and disease: effects of host density on parasite infection in monarch butterflies. *Ecological Entomology*. 34:551-561.
42. Harvell, C.D., **Altizer, S.**, Cattadori, I., Harrington, L. and Weil, E. 2009. Climate change and wildlife diseases: when does the host matter the most? *Ecology*. 90: 912-920.
41. Lindsey, E.A. and **Altizer, S.** 2009. Sex differences in immune defenses and response to parasitism in monarch butterflies. *Evolutionary Ecology*. 23: 607-620.
40. De Roode, J.C., Yates, A.J. and **Altizer, S.** 2008. Virulence-transmission trade-offs and population divergence in virulence in a naturally occurring butterfly parasite. *Proceedings of the National Academy of Sciences*. 105: 7489-7494.
39. Bradley, C.A., Gibbs, S.E.J., and **Altizer, S.** 2008. Urban land use predicts West Nile Virus exposure in songbirds. *Ecological Applications*. 18: 1083-1092.
38. De Roode, J.C., Pedersen, A.P., Hunter, M. and **Altizer, S.** 2008. Host plant species affects virulence in monarch butterfly parasites. *Journal of Animal Ecology*. 77: 120-126.
37. Pedersen, A.B., Jones, K., Nunn, C.L. and **Altizer, S.** 2007. Infectious diseases and extinction risk in wild mammals. *Conservation Biology*. 21: 1269-79.
36. De Roode, J.C., Gold, L.R. and **Altizer, S.** 2007. Virulence determinants in a natural butterfly-parasite system. *Parasitology*, 134: 657-68.
35. Bradley, C.A. and **Altizer, S.** 2007. Urbanization and the ecology of wildlife diseases. *Trends in Ecology and Evolution*, 22(2): 95-102.
34. **Altizer, S.**, Nunn, C.L. and Lindenfors, P. 2007. Do threatened hosts have fewer parasites? A comparative study in primates. *Journal of Animal Ecology*, 76: 304-314
33. Ezenwa, V.O., Price, S.A., **Altizer, S.**, Vitone, N.D. and Cook, K.C. 2006. Host traits and parasite species richness: patterns and processes in even and odd-toed hoofed mammals (Artiodactyla and Perissodactyla). *Oikos*. 115: 526-536.
32. **Altizer, S.**, Dobson, A., Hosseini, P., Hudson, P., Pascual, M., and Rohani, P. 2006. Seasonality and the dynamics of infectious diseases. *Ecology Letters*. 9: 467-484.
31. Cherry, J.J., Ley, D.L. and **Altizer, S.M.** 2006. Genotypic analysis of *Mycoplasma gallisepticum* isolates from songbirds by random amplification of polymorphic DNA and amplified fragment length polymorphism. *Journal of Wildlife Diseases*. 42(2): 421-428.
30. Bradley, C. and **Altizer, S.** 2005. Parasites hinder monarch butterfly flight ability: implications for disease spread in migratory hosts. *Ecology Letters*. 8: 290-300.

29. Ladner, D. and **Altizer, S.** and 2005. Oviposition preference and larval performance of North American monarch butterflies on four *Asclepias* species. *Entomologia Experimentalis et Applicata*. 116: 9-20.
28. E.R. Hotchkiss, Davis, A.K., J.J. Cherry and **S. Altizer.** 2005. Mycoplasmal conjunctivitis and the behavior of wild house finches (*Carpodacus mexicanus*) at bird feeders. *Bird Behavior*. 17:1-8.
27. Davis, A.K., Farrey, B., and **Altizer, S.** 2005. Variation in thermally-induced melanism in monarch butterflies (Lepidoptera: Nymphalidae) from three North American populations. *Journal of Thermal Biology*. 30: 410-421.
26. Nunn, C.L, **Altizer, S.,** Sechrest, W. and Cunningham, A. 2005. Latitudinal gradients of parasite species richness in primates. *Diversity and Distributions*. 11: 249-256.
25. Pedersen, A., Poss, M., Nunn, C.L., Cunningham, A. and **Altizer, S.** 2005. Patterns of host specificity and transmission among parasites of free-living primates. *International Journal for Parasitology*. 35: 647-657.
24. Dhondt, A.A., **Altizer, S.,** Cooch, E.G., Davis, A.K., Dobson, A.P., Driscoll, M.J.L., Hartup, B.K., Hawley, D.M., Hochachka, W.M., Hosseini, P.R., Jennelle, C.S., Kollias, G.V., Ley, D.H., Swarthout, E.C.H., and Sydenstricker, K.V. 2005. Dynamics of a novel pathogen in an avian host: mycoplasmal conjunctivitis in house finches. *Acta Tropica*. 94: 77-93.
23. Nunn, C.L. and **Altizer, S.** 2005. The global mammal parasite database: an online resource for infectious disease records in wild primates. *Evolutionary Anthropology*. 14:1-2.
22. Davis, A.K., B. Farrey and **S. Altizer.** 2004. Quantifying monarch butterfly larval pigmentation using digital image analysis. *Entomologia Experimentalis et Applicata*. 113: 145-147.
21. Davis, A.K., K. Cook and **S. Altizer.** 2004. Leukocyte profiles in wild House Finches with and without mycoplasmal conjunctivitis, a recently emerged bacterial disease. *Ecohealth*. 1:362-373.
20. **Altizer, S.,** Davis, A.K., Cook, K.C., and Cherry, J.J. 2004. Age, sex and season affect the risk of mycoplasmal conjunctivitis in a southeastern House Finch population. *Canadian Journal of Zoology*. 82: 755-763.
19. Nunn, C., **Altizer, S.,** Sechrest, W., Barton, R., and Gittleman, J. 2004. Parasites and the evolutionary diversification of primate clades. *American Naturalist*. 164: S90-S103.
18. **Altizer, S.,** Hochachka, W., and Dhondt, A. 2004. Seasonal dynamics of mycoplasmal conjunctivitis in eastern North American House Finches. *Journal of Animal Ecology*. 73:309-322. *Cover article*
17. Davis, A.K., **S. M. Altizer** and E. Friedle. 2004. A non-destructive, automated method of counting spores of *Ophryocystis elektroscirrha* in infected monarch butterflies (Lepidoptera: Nymphalidae). *Florida Entomologist*. 87(2): 231-234.
16. Vitone, N.D., Nunn, C.L. and **Altizer, S.** 2004. Body size, diet and sociality influence the species richness of parasitic worms in anthropoid primates. *Evolutionary Ecology Research*. 6:183-199.
15. **Altizer, S.,** Harvell, C.D., and Friedle, E. 2003. Rapid evolutionary dynamics and disease threats to biodiversity. *Trends in Ecology and Evolution*. 18(11): 589-596.
14. **Altizer, S.,** Nunn, C., Thrall, P., Gittleman, J., Ezenwa, V., Pulliam, J., Pedersen, A., Dobson, A., Poss, M., Cunningham, A., Antonovics, J., Jones, K. 2003. Social organization and disease risk in mammals: integrating theory and empirical studies. *Annual Review of Ecology, Evolution and Systematics*. 34:517-47.
13. Nunn, C.L., **Altizer, S.M.,** Jones, K.E., and Sechrest, W. 2003. Comparative tests of parasite species richness in primates. *American Naturalist*. 162(5): 597-614.

12. Milligan, J.L., Davis, A.K., and Altizer, S.M. 2003. Errors associated with using colored leg bands to identify wild birds. *Journal of Field Ornithology*. 74 (2):111-118.
11. Harvell, D., Mitchell, C.E., Ward, J.R., Altizer, S., Dobson, A., Ostfeld, R.S., and Samuels, M.D. 2002. Climate warming and disease risks for terrestrial and marine biota. *Science*. 296: 2158-2162.
10. Altizer, S.M. 2001. Migratory behaviour and host-parasite co-evolution in natural populations of monarch butterflies infected with a protozoan parasite. *Evolutionary Ecology Research*. 3: 611-632.
9. Altizer, S.M., Oberhauser, K.S. and Brower, L.P. 2000. Associations between host migration and the prevalence of a protozoan parasite in natural populations of monarch butterflies. *Ecological Entomology*. 25: 125-139. *Awarded best paper in Society's Journals for 1999-2001*
8. Packer, C., Altizer, S., Appel, M., Brown, E., Martenson, J., O'Brien, S.J., Roelke-Parker, M., Hofmann-Lehmann, R., and Lutz, H. 1999. Viruses of the Serengeti: Patterns of infection and mortality in African lions. *Journal of Animal Ecology*. 68(6): 1161-78.
7. Altizer, S.M. and Oberhauser, K.S. 1999. Effects of the protozoan parasite, *Ophryocystis elektroscirrha*, on the fitness of monarch butterflies (*Danaus plexippus*). *Journal of Invertebrate Pathology*. 74(1): 76-88.
6. Altizer, S.M., Thrall, P.H. and Antonovics, J. 1998. Vector behavior and the transmission of anther-smut infection in *Silene alba*. *American Midland Naturalist*. 139: 147-163.
5. Oudemans, P., Antonovics, J., Alexander, H.M., Altizer, S., Thrall, P.H., Rose, L. 1998. The distribution of mating-type bias in natural populations of the anther-smut *Ustilago violacea* on *Silene alba* in Virginia. *Mycologia*. 90(3): 372-381.
4. Stephens, D.S., Moxon, E.R., Adams, J., Altizer, S., Antonovics, J., Aral, S., Berkelman, R., Bull, J., Cauthen, G., Farley, M.M., Glasgow, A., Glasser, J.W., Katner, H., Kelley, S., Mittler, J., Nahmias, A.J., Nichol, S., Perrot, V., Pinner, R.W., Schrag, S., Small, P., and Thrall, P.H. 1998. Emerging and reemerging infectious diseases: a multidisciplinary perspective. *American Journal of the Medical Sciences*. 315(2): 64-75.
3. Altizer, S.M. and Augustine, D.J. 1997. Interactions between frequency-dependent and vertical transmission in host-parasite systems. *Proceedings of the Royal Society of London Series B*. 264: 807-814.
2. Brower, L.P., Fink, L.S., Brower, A.V.S., Leong, K., Oberhauser, K., Altizer, S., Taylor, O., Vickerman, D., Calvert, W.H., Van Hook, T., Alonso, A., Malcolm, S.B., Owen, D.F., and Zalucki, M.P. 1995. On the dangers of interpopulational transfers of monarch butterflies. *BioScience*. 45(8): 540-544.
1. Altizer, S.M. and Forward, R.B. 1993. Offshore escape response and directional orientation of the striped hermit crab *Clibanarius vittatus* (BOSC). *Marine Behav and Physiology*. 22: 97-105.

CREATIVE CONTRIBUTIONS OTHER THAN PUBLICATIONS

1. Online databases and web resources

The Global Mammal Parasite Database – a comprehensive data set of over 10,000 records of parasites and pathogens reported from wild populations of primates, carnivores and ungulates. Developed by S. Altizer, C. Nunn, V. Ezenwa, and P.R. Stephens. <https://gmpd2.ecology.uga.edu/>

The Monarch Butterfly Parasites Website – providing detailed information on the biology, transmission and current research on *Ophryocystis elektroscirrha* and other parasites of monarch butterflies. Developed

and coordinated by S. Altizer. www.monarchparasites.org

2. Conferences and symposia organized

2021: Conference organizer: “Research Frontiers in Animal Behavior and Parasitism;” virtual conference hosted by the University of Georgia. Co-organized with Vanessa Ezenwa and Richard Hall and sponsored by the Center for the Ecology of Infectious Diseases. Sessions featured 28 invited and contributed talks, break-out groups, virtual poster session, and networking lunch.

2019: Conference organizer: Pathogens Gone Global Conference at Duke University. Co-organized with Patrick Stephens and Charlie Nunn. Sessions featured 12 invited speakers, debate, and panel discussion, and 140 registered participants.

2016: Symposium organizer for Annual Meeting of the Ecological Society of America: “Anthropogenic resource provisioning and infectious disease dynamics.” Co-organized with Dr. Richard Hall and Dan Becker. Session included 8 invited speakers. Talks motivated a theme issue of Phil Trans B, with 10 papers published in 2018.

2015: Conference organizer: 13th Annual International Conference on the Ecology and Evolution of Infectious Diseases, University of Georgia, venue: Classic Center. (Co-organizer: Dr. Andrew Park) Meeting events include 22 invited and contributed talks and 350+ participants from the US and Europe.

2014: Conference steering committee. Impact of Environmental Changes on Infectious Diseases, 23-25 March 2015, Sitges, Spain. (conference sponsored by Elsevier, one of 8 steering committee members responsible for planning the program and reviewing contributed talks. 400+ participants.

2010: Symposium organizer for US-IALE (Landscape Ecology) Conference, Athens, GA. (co-organizers: John Drake and Ross Meentemeyer). “Landscape ecology and infectious disease dynamics.” Session included 6 invited speakers

2009: Conference organizer: 7th Annual International Conference on the Ecology and Evolution of Infectious Diseases, University of Georgia. (Co-organizer: Dr. Pej Rohani.) Meeting events include 22 invited and contributed talks and 200 participants from the US and Europe.

2007: Symposium organizer for Annual Meeting of the Ecological Society of America: “Ecological immunity, epidemics and environmental change.” Co-organized with Dr. Johannes Foufopoulos. Session included 10 invited speakers.

2004: Conference organizer: 2nd Annual International Conference on the Ecology and Evolution of Infectious Diseases, Emory University. (Co-organizer: Dr. Leslie Real.) Meeting events included 24 invited talks and over 100 participants from the US and Europe.

2004: Oral session organizer for Annual Meeting of the Ecological Society of America: “Parasites and Host Social Organization: Ecological and Evolutionary Perspectives.” Co-organized with Dr. Charlie Nunn. Session included 10 invited speakers.

3. Collaborative working groups

2013-2019: “Macroecology of Infectious Diseases” **NSF-sponsored Research Coordination Network**. Organizers: Patrick Stephens, Sonia Altizer, Alonso Aguirre, Robert Poulin

2015: “Monarch Butterfly Recovery – A **John Wesley Powell Center for Analysis and Synthesis Working Group**.” Ft. Collins, CO. Organizers: Darius Semmens, Karen Oberhauser.

2013: “Migratory network theory, monarch butterfly declines and response to environmental change” **NimBioS working group**, Knoxville, TN. Organizers: Richard Hall and Caz Taylor

2009-2011: “Monarch butterflies as a model for understanding the spatiotemporal dynamics of migratory species and their response to environmental change,” **NCEAS working group**, Santa Barbara, CA. Organizers: Sonia Altizer, Karen Oberhauser and Leslie Ries.

2009: “Sharing and integrating monarch butterfly monitoring data in North America to address conservation and management needs,” **Working group sponsored by Commission for Environmental Cooperation**, Athens, GA. Organizers: Sonia Altizer, Andy Davis, Karen Oberhauser and Leslie Ries.

2007: “Biodiversity and infectious diseases,” **Diversitas Working Group**, EcoHealth Meeting, Madison, WI. Organizer: Dr. Peter Daszak.

2006: “Parasites and the conservation of biodiversity,” **Conservation International working group**. Washington, D.C. Organizers: Sonia Altizer, Charlie Nunn, Amy Pedersen.

2003-2005: “Seasonality and the dynamics of infectious diseases,” **NCEAS working group**, Santa Barbara, CA. Organizers: Andrew Dobson and Mercedes Pascual.

2004: “Infectious diseases and conservation biology,” **Conservation International working group**, Washington, D.C. Organizers: Charlie Nunn, Andrew Dobson and John Gittleman, 11/02-1/04.

2001-2003: “Understanding the ecology and evolution of infectious diseases in mammalian mating and social systems,” **NCEAS working group**, Santa Barbara, CA. Organizers: Sonia Altizer and Charlie Nunn.

2000-2002: “Conservation and infectious diseases,” **NCEAS working group**, Santa Barbara CA. Organizers: Andrew Dobson and Robert Holt.

COURSES TAUGHT

University of Georgia

ECOL 1000: *Ecological Basis for Environmental Issues*. Ecological concepts that underpin modern environmental challenges; population growth, loss of diversity, resource limitation, pollution, and global climate change. Enrollment: 280. Co-taught for 10 terms between Spring 2008-Fall 2018.

ECOL 1000H: *Honors Ecology*. Honors break-out section to accompany ECOL 1000. 9-14. Taught 4 terms between Fall 1016-Fall 2022.

ECOL 4150L/6150L. *Population Biology of Infectious Diseases*. Examines the spread and evolution of pathogens and parasites in human and wildlife systems. Enrollment: 32-46. Created course and co-taught 8 terms between Spring 2012 and Spring 2021.

ECOL 4000/6000. *Population and Community Ecology*. Major forces driving population dynamics, species interactions, and the structure of ecological communities. Enrollment: 14-24. Taught Fall 2006, 2007,

ECOL 4950: *Senior Seminar*. Discussion and critical appraisal of reports of original research and/or surveys of the technical literature in ecology. Enrollment: 14-24. Taught 3 times between Fall 2013-Fall 2017.

FYOS 1101: *First Year Odyssey Seminar*. Taught 5 sections between Fall 2011-Spring 2016.

ECOL 8530: *Interdisciplinary Problem Solving in Infectious Disease Ecology*. Graduate capstone course that provides interdisciplinary training and collaboration on real-world infectious disease problems. Enrollment: 8-12. Created course and co-taught for 3 terms between Spring 2019-Spring 2021.

ECOL 8990: *Graduate seminar in the Ecology and Evolution of Infectious Diseases*. Advanced topics related to host-pathogen ecology and evolution. Enrollment: 11-14. Taught Spring 2006, 2008.

University of Virginia

BIOL 4761/7761: *Ecology of Wildlife Diseases*. Field course at Mountain Lake Biological Station (Pembroke, VA) to introduce students to diverse wildlife pathogens and parasites and the forces that determine their spread and evolution. Enrollment 8-14. Taught Summer 2000, 2005, 2008, 2013, 2018.

Emory University

ENVS 345: *Conservation Biology*. Upper-level undergraduate course to cover: extinction crisis; major causes of extinction; population viability analysis; parks and protected areas; habitat restoration; environmental ethics. Enrollment 17-23. Taught Fall 2001, 2003.

ENVS 132: *Integrative Methods in Environmental Studies*. Introduction to environmental issues related to air quality, water quality, climate change, biodiversity, land conservation, and human populations. Enrollment: 22-35. Taught Spring 2002, 2004.

ENVS 385: *Population Ecology*. Introduction to major forces driving population dynamics, species interactions, and the structure of ecological communities. Enrollment: 14. Taught Fall 2004.

ENVS 249: *Ecological Invasions*. Spread and impacts of invasive species around the world, as relates to fundamental ecological principles and case studies. Enrollment: 18-24. Taught Spring 2003, 2005.

ENVS 385: *Insect Ecology*. Surveys the major insect orders and key traits; insect behavior, population growth, species interactions, and conservation issues. Enrollment: 12. Taught Spring 2004, 2005.

IBS 796R: *Coevolution* (graduate seminar). Discussion of concepts and case studies in coevolutionary interactions, including pollination, herbivory, predation and parasitism. Enrollment: 12. Spring 2003.

Princeton University

EEB 210: *Evolutionary Ecology*. Introductory course on fundamental concepts and case studies in evolutionary ecology, including: natural selection, population ecology, species interactions, macroevolution, and animal behavior. Enrollment: 41-50. Taught two terms (Spring 1999, 2000)

SUPERVISION OF STUDENT RESEARCH

1. Doctoral dissertations directed (19 PhD students, in chronological order)

- a. Elizabeth Lindsey, Emory University, PBEE Graduate program. 2002-2008. *Genetic and environmental determinants of parasite resistance in monarch butterflies*. Dissertation completed.
- b. Catherine Bradley, Emory University PBEE Graduate program, and University of Georgia Ecology graduate program. 2003-2009. *Urbanization and infectious disease ecology in wild songbird communities*. Dissertation completed.
- c. Jamie Winternitz, University of Georgia Ecology PhD program. 2006-2012. *Immunogenetic diversity in montane voles and other wild mammals*. CTGED NIH graduate fellow. Dissertation completed.
- d. Daniel Streicker, University of Georgia Ecology PhD program. 2006-2011. Co-chair with Dr. Pejman Rohani. *Viral host shifts: ecological dynamics, cross-species transmission and host adaptation in bat rabies*. Dissertation completed. NSF graduate research fellowship, Robert C. Anderson Memorial Award, SciLife Prize AAAS Young Investigator Award.
- e. Julie Rushmore, University of Georgia DVM/PhD Program. 2007-2013. *Social and ecological drivers of pathogen transmission in East African great apes*. Dissertation completed. Morris Animal Foundation fellowship, Fullbright fellowship, James L. Carmon Scholarship Award, Robert C. Anderson Memorial Award.
- f. Shan Huang, University of Georgia Ecology PhD program. 2007-2012. Co-chair with Dr. John Gittleman. *Evolutionary history explains the distribution and diversity of mammals and their parasites*. Dissertation

completed. James L. Carmon Scholarship Award

- g. Alexa Fritzsche McKay, University of Georgia Ecology PhD program. Co-chair with Dr. Vanessa Ezenwa. 2010-2016. *How do the demands of reproduction and long distance migration alter immunity in monarch butterflies?* Dissertation completed. NSF graduate research fellowship; NSF Dissertation Improvement Grant
- h. Dara Satterfield Ecology PhD program, University of Georgia. Co-chair with Dr. John Maerz. 2011-2016. *Understanding how shifts from migratory to sedentary behavior influence pathogen dynamics in a butterfly host.* Dissertation completed. NSF graduate research fellowship, NSF Dissertation Improvement Grant; Stoddard-Burleigh-Sutton Conservation Award.
- i. Dan Becker, University of Georgia Ecology PhD program. 2012-2017. *Resource provisioning and infectious disease dynamics in wildlife.* Dissertation completed. NSF graduate research fellowship; NSF Dissertation Improvement Award; UGA ARCS Foundation Fellowship; Stoddard-Burleigh-Sutton Conservation Award; Robert C. Anderson Memorial Award.
- j. Ania Majewska, University of Georgia Ecology PhD program. 2013-2019. *Effects of pollinator-friendly gardens on butterfly recruitment, abundance and infectious disease dynamics.* Wormsloe Graduate Fellowship. Joan DeWind Award for Insect Conservation, Robert C. Anderson Memorial Award.
- k. Cecilia Sanchez, University of Georgia Ecology PhD program. 2014-2019. *Nutrition, immunity and infection in urban bats.* NSF graduate research fellowship; UGA ARCS Foundation Fellowship. Robert C. Anderson Memorial Award.
- l. Claire Teitelbaum, University of Georgia Ecology PhD program. 2016-2021. Co-chair with Dr. Richard Hall. *How do nomadic species and their pathogens respond to changing resource distributions?* UGA Presidential Graduate Fellowship; NSF graduate research fellowship. James L. Carmon Scholarship honorable mention.
- m. Maria Luisa Mueller Theissen, University of Georgia Ecology PhD program, IDEAS graduate program. 2018-present. Co-chair with Dr. Nicole Gottdenker. *Determinants of host range and cross-species transmission for a protozoan parasite of milkweed butterflies.*
- n. Isabella (Izzy) Ragonese, University of Georgia Ecology PhD program, IDEAS graduate program. 2018-present. Co-chair with Dr. Richard Hall. *Climate change responses of infection dynamics in a migratory host.* NSF graduate research fellowship.
- o. Cali Wilson, University of Georgia Ecology PhD program, IDEAS graduate program. 2018-present. Co-chair with Dr. Richard Hall. *Feeding wildlife in urban parks: effects on behavior, species interactions, and infection dynamics.*
- p. Anna Willoughby, University of Georgia Ecology PhD program, IDEAS graduate program. 2018-present. Co-chair with Dr. John Drake. *Behavioral and immunological consequences of campsite scavenging in park wildlife.*
- q. Phillip Michael Newberry, University of Georgia Ecology PhD program, IDEAS graduate program. 2018-present. Co-chair with Dr. Courtney Murdock. *Microhabitat selection and the dynamics of vector-borne disease.* NSF graduate research fellowship.
- r. Juliana Hoyos, University of Georgia, Ecology PhD program, IDEAS graduate program. 2020-present. Co-chair with Dr. Nicole Gottdenker. *Deforestation, reforestation, and dynamics of a multi-host vector-borne parasite in the tropics.*
- s. TJ Odom, University of Georgia, Ecology PhD program, IDEAS graduate program. 2020-present. Co-

chair with Dr. Andrew Park. *Climate change, animal range shifts, and parasitism in Appalachian salamanders.*

2. Masters students directed (6 MS students)

- a. John Cherry, Emory University. 2002-2005. *Ecological and genetic approaches to understanding variation in *Mycoplasma gallisepticum* in wild House Finches.*
- b. Christina Faust, University of Georgia. 2007-2009. Joint BS/MS program in Ecology. *Role of freshwater invertebrates in the aquatic cycle of avian influenza virus.* Udall, Mitchell, and Truman scholar
- c. Emily Cornelius, MS co-advisor with Andy Davis. 2011-2013. *Parasite infection, immune defense and stress in migrating songbirds.* Wormsloe Fellow.
- d. Cody Prouty, University of Georgia. 2019-21. *Sublethal consequences of neonicotinoid pesticides on monarch butterflies.* Lincoln Brower inaugural award recipient from the Monarch Butterfly Fund.
- e. Ashley Ballew, University of Georgia. 2019-21. *Nectar resources, parasitism, and monarch butterfly flight performance.*
- f. Caroline Aikins, University of Georgia. 2021-22. Co-chair with Dr. Takao Sasaki. *Collective decision making in monarch butterflies.* Presidential Management Fellow.
- g. Charlotte Hovland, University of Georgia. 2023-present. *Winter ecology of monarch butterflies in the southern United States.*

3. Postdoctoral researchers supervised (8)

- a. Amy Pedersen. 2005-2006. Supported at University of Georgia on startup funds. Currently on the faculty of the School of Biological Sciences, University of Edinburgh
- b. Jacobus de Roode. 2005-2007. Supported at University of Georgia on Marie Curie – European Union Fellowship. Currently Professor, Department of Biology, Emory University.
- c. Rebecca Bartel. 2008-2011. Supported at University of Georgia on NIH/NRSA Ruth Kirschstein Fellowship. Currently Terrestrial Ecologist with the US Fish and Wildlife Service.
- d. Barbara Han. 2008-2011. Supported at University of Georgia on NSF Bioinformatics Fellowship. Currently Disease Ecologist, Cary Institute of Ecosystem Studies.
- e. Daniel Streicker. 2012-2013. Supported at University of Georgia on NSF DEB grant. Currently a faculty member at the University of Glasgow.
- f. Leone Brown. 2015-2017. Supported at University of Georgia on NSF Math-Bio Fellowship. Currently a lecturer at Tufts University.
- f. Paola Barriga. 2014-2021. Previously a visiting postdoctoral scholar; currently lab coordinator in the UGA Department of Plant Biology.
- g. Elske Tielens. 2024-present. Supported at University of Georgia through the Odum Postdoctoral Scholar program.

4. Undergraduate students mentored in research

University of Georgia: 70 undergraduates supervised in research since 2005, including students enrolled in research credits (e.g., ECOL 4960), on hourly payroll, supported by CURO funds, and volunteer.

Emory University: 15 undergraduates supervised in research from 2001-2005, including students enrolled in research credits, on hourly payroll, and volunteer.

5. Undergraduate honors theses supervised (6 students)

University of Georgia

Christopher Brandon, undergraduate honors advisor (Ecology, May 2022)

Hayley Schroeder, undergraduate honors advisor (Ecology, May 2018)

Jean Chi, undergraduate honors advisor (Ecology, May 2009)

Malavika Rajeev, undergraduate honors advisor (Ecology, May 2012)

Emory University

Bethany Farrey, undergraduate honors advisor (Environmental Studies, May 2004)

Deborah Ladner, undergraduate honors advisor (Environmental Studies, May 2003)

6. Masters advisory committee member (8 committees)

Joy Vaz, University of Georgia, Ecology, masters committee (degree 12/21)

Megan Winzeler, University of Georgia, Ecology, masters committee (degree 4/16)

Malavika Rajeev, University of Georgia, Ecology, masters committee (degree 8/13)

Mindy Edelson, University of Georgia, CESD, masters committee (degree 8/13)

James Moree, University of Georgia, Ecology MS committee (degree 8/12)

Donna Gast, University of Georgia, Science Education, MS committee (degree 5/09)

Hanh Nguyen, University of Georgia, Ecology, masters committee (degree 7/07)

Jennifer Snaman, Emory University, PBEE, masters committee (degree 6/04)

7. Doctoral advisory committee member (19 committees)

Carlos Moreno, University of Georgia, Ecology, doctoral committee (in progress)

Mariana Matos, University of Georgia, Department of Anthropology, doctoral committee (in progress)

Annakate Schatz, University of Georgia, Ecology/IDEAS, doctoral committee (in progress)

Christen Steele, Tulane University, EEB, doctoral committee member (completed 6/22)

Allison Williams, University of Georgia, Ecology, doctoral committee (in progress)

Brett Nolan, University of Georgia, Entomology, doctoral committee (completed 4/16)

Jenna Malek University of Georgia, Ecology, doctoral committee (completed 11/15)

Alyssa Gehman, University of Georgia, Ecology, doctoral committee (completed 4/16)

Carrie Keogh, University of Georgia, Ecology, doctoral committee (completed 4/16)

Kimmy Kellett, University of Georgia, Ecology, doctoral committee (completed 8/15)

Sarah Budishak, University of Georgia, Ecology, doctoral committee (completed 7/14)

Sarah Sander, University of Georgia, Genetics, doctoral committee (completed 7/15)

Angie Maxted, University of Georgia, SCWDS, doctoral committee (completed 11/11)

Jodie Linder, University of Georgia, Genetics, doctoral committee (completed 3/09)

Nicole Gottdenker, University of Georgia, Ecology, doctoral committee (completed 6/09)

Renee Carleton, University of Georgia, WSFNR, doctoral committee (completed 10/07)

Matthew Bonds, University of Georgia, Ecology, doctoral committee (completed 7/06)

Tonya Mixson, Emory University, PBEE, doctoral committee (completed 11/06)

Jeff Smith, Emory University, PBEE, doctoral committee (completed 1/06)

Sarah Brosnan, Emory University, PBEE, doctoral committee (completed 5/04)

EDITORSHIP OR EDITORIAL BOARD ACTIVITIES

Board of Reviewing Editors: Science Magazine (AAAS), 2008-2016. Areas covered: infectious disease ecology, evolutionary ecology, organismal biology. Review 2-6 papers/month.

Associate Editor: Journal of Animal Ecology. 2013-2015. Handled 2-3 papers/month.

Associate Editor: Ecological Applications, 2007-2009. Handled 7-8 papers/year.

Invited ad-hoc reviewer for numerous scholarly journals, including: Proceedings of the Royal Society, Philosophical Transactions of the Royal Society, Journal of Animal Ecology, Ecology, American Naturalist, PNAS, Ecological Monographs, Animal Conservation, Biological Conservation, Ecological Applications, Ecological Entomology, Evolutionary Ecology Research, EcoHealth, Journal of Applied Ecology, American Journal of Primatology, Conservation Biology, OIKOS, Oecologia, Ecology Letters, Evolutionary Anthropology and more.

CONVENTION PAPERS AND RESEARCH PRESENTATIONS

1. Keynote and Plenary Addresses (8)

2019: Gordon Conference, Movement Ecology of Animals, March 2019, Invited speaker. Tuscany, Italy

2016: Steering committee invited keynote speaker, Annual meeting of the Canadian Society of Zoologists, London, Ontario, Canada.

2015: CURO (Center for Undergraduate Research Opportunities) Symposium Keynote Address, University of Georgia, Athens, GA.

2015: TEDxUGA Presenter, Athens, GA.

2014: Keynote invited speaker. North American Butterfly Association Annual Conference. Chattanooga, TN.

2014: Welcome to the Anthropocene UGA lecture series, Fall 2014. Athens, GA.

2012: Keynote invited speaker. European Wildlife Disease Association Meeting. Lyon, France

2012: Keynote invited speaker. Monarch Biology and Conservation Meeting. Minneapolis, MN

2. Invited symposium and conference talks (29)

2021: Symposium speaker, AAAS annual meeting (virtual), January 2021.

2020: Symposium Speaker, The Wildlife Society annual meeting (virtual), September 2020.

2019: Debate panelist, Pathogens Gone Global Symposium, Duke University, September 2019

2019: Conference Speaker, France-Atlanta Biodiversity Symposium, Emory University, October 2019

2019: Conference speaker, Tri-national science meeting on monarch butterfly conservation organized by the Commission for Environmental Cooperation. February 2019. Mexico City.

2016: Symposium speaker, International Congress of Entomology, XXV. Orlando, FL

2016: Symposium speaker, Annual Meeting of the Ecological Society of America. Ft. Lauderdale, FL

2014: Symposium speaker, Annual Meeting of the Ecological Society of America. Sacramento, CA

2014: Symposium speaker, Annual Ecology and Evolution of Infectious Diseases Conference, Ft. Collins, CO.

2013: Invited speaker, Institute of Medicine of the National Academies Workshop, *The Influence of Global Environmental Change on Infectious Disease Dynamics*, Washington, D.C.

2013: Invited speaker, Centre for Animal Movement Research Workshop, Lund, Sweden

2013: Invited speaker and workshop participant. IX. Göttinger Freilandtage. The Sociality-Health-Fitness Link. Göttingen, Germany.

2013: Symposium speaker. Annual Meeting of the Ecological Society of America. Minneapolis, MN

2011: Symposium speaker. Annual Meeting of the Ecological Society of America. Austin, TX

2011: Invited speaker. Jacques Monod Conference, Coevolutionary arms race between parasite virulence and host immune defence. Roscoff, France (withdrew for family/medical reasons)

2010: Invited speaker. Royal Society and the Zoological Society of London, Disease invasion: impacts on biodiversity and human health, London, UK. (withdrew for medical reasons)

2010: Symposium speaker. US IALE (Landscape Ecology) Conference. Athens, GA

2010: Symposium speaker. International Conference on the Biology of Butterflies. Edmunton, Canada

2007: Symposium speaker. International Conference on the Biology of Butterflies. Rome, Italy.

2007: Symposium speaker. Annual Meeting of the Ecological Society of America. San Jose, CA

2007: Invited speaker. Jacques Monod Conference, Evolutionary Genetics of Host-Parasite Relationships. Roscoff, France

2005: Invited speaker. Monarch Butterfly Population Dynamics Conference. San Luis Obispo, CA

2005: Symposium speaker. Annual Meeting of the Wildlife Society, Madison, WI

2005: Symposium speaker. Annual Meeting of the Pacific Branch of the Entomological Society of America, Pacific Grove, CA

2004: Symposium speaker. Annual Meeting of the Ecological Society of America. Portland, OR.

2003: Symposium speaker. Annual AAAS meeting. Denver, CO.

2003: Invited speaker. Ecology and Evolution of Infectious Diseases Meeting. Penn State University.

2001: Symposium speaker. Annual Meeting of the Ecological Society of America. Madison, WI.

4. Invited talks at universities and institutes (39)

Penn State University, Biology Department Seminar, January 2021.

Virginia Tech University, Center for Emerging, Zoonotic and Arthropod-Borne Pathogens. Distinguished Speaker Lecture Series. March 2021.

Mountain Lake Biological Station, University of Virginia, seminar speaker, June 2018

Penn State University, Center for Infectious Disease Dynamics seminar speaker, April 2018

Tufts University, Biological Sciences Department, seminar speaker, February 2018

University of Minnesota, Department of Ecology, Evolution and Behavior. 50th Anniversary Celebration keynote speaker. October 2017.

Duke University, Annual Ecology Symposium keynote speaker, March 2015.

Princeton University, Robert May Invited Lecture in Ecology and Modeling, September 2014.

Emory University, Biology Department, March 2014.

University of Georgia, Department of Pathology, February 2014.

Louisiana State University, Biology Department, February 2014.

University of Georgia, One Health Rabies Symposium, November 2013.

University of Minnesota, College of Veterinary Medicine, March 2013.

Penn State University, Center for Infectious Disease Dynamics, December 2012.

University of Georgia, School of Veterinary Medicine. Veterinary Sciences Day. November 2012.

UC Davis, Department of Entomology, seminar speaker, June 2012.

University of Colorado, Department of Ecology and Evolutionary Biology, March 2012.

Indiana University, Department of Ecology, Evolution and Behavior, November 2011.

Georgia Southern University, Biology Department, seminar speaker. October 2011.

Cary Institute for Ecosystems Studies, seminar speaker. February 2010.

University of Georgia, Entomology Dept seminar speaker. November 2009.

University of Georgia, Dept of Infectious Diseases, annual retreat invited speaker, April 2009.
University of Georgia, Dept of Microbiology seminar speaker. April 2009.
College of Wooster, Tri-Beta undergraduate honor society invited speaker. April 2008.
Ohio State University, OARDC, Dept. of Entomology. May 2008.
Colorado State University, Distinguished Ecologist Series. April 2008.
University of North Carolina, Department of Biology. November 2006.
Clemson University, Department of Entomology, October 2006.
University of Georgia, Lecture Series on the Ecology of Infectious Diseases, June 2006.
University of Montana, Department of Biology, March 2006.
Washington State University. Department of Biology, February 2006.
University of British Columbia. Zoology Department, November 2004. (job seminar)
University of Georgia. Institute of Ecology, November 2004. (job seminar)
Emory University, PBEE Graduate Program seminar series. October 2003.
University of Georgia. Institute of Ecology, September 2002.
University of Minnesota. Department of Ecology, Evolution, and Behavior, January 2002.
Panel discussion for Werner Fornos talk: *Population and the urban future: gaining people, losing ground*.
Sponsored by Sierra Club and Emory University. November 2001.
Emory University, Department of Environmental Studies seminar series. November 2001.
Emory University, PBEE Graduate Program seminar series. October 2001

ADMINISTRATIVE AND LEADERSHIP EXPERIENCE

Director of Public Service and Outreach, Odum School of Ecology, University of Georgia (October 2023-present). Oversee and facilitate participation by faculty, staff and students in public service and outreach activities. Liaise with UGA's Office of Business Engagement, the Office of Public Service and Outreach, and other PSO leaders across campus to develop collaborative initiatives. Coordinate strategic planning of unit's mission associated with public engagement, which includes defining links to policy and education. Support activities associated with the student-led K-12 outreach program, EcoReach. Coordinate faculty awards (nominations and selection) specifically related to service.

Interim Dean, Odum School of Ecology, University of Georgia (July 2021-July 2023). Served as chief academic and administrative officer of the school; made strategic decisions regarding budget, program development, and implementation of the school's strategic plan. Provided leadership, guidance and advocacy for faculty, staff and students. Cultivated relationships with alumni and communicated with external audiences to elevate the school's profile, secure financial resources, and enhance support for the school. Oversaw faculty and staff hiring and annual evaluations. Collaborated with associate deans, center directors and executive committee of the school to advance instructional, research, service and outreach activities. Represented the Odum School to the University's senior administration, collaborated with other schools and colleges at UGA to advance initiatives, and built internal and external partnerships.

Associate Dean for Research and Operations, Odum School of Ecology, University of Georgia (July 2020-July 2021). Oversaw strategic planning associated with the research mission of the school. Promoted faculty scholarship including pre- and post-award facilitation for grants and contracts, conference travel and professional leave, and coordinated faculty awards and recognition. Liaised with other units and senior administrators on matters related to research and operations. Assisted the Dean with faculty annual evaluations and merit raise allocations. Developed budgetary costs associated with maintaining and upgrading facilities, chaired the school's space and facilities committee, and chaired the school's executive

committee.

Academic Coordinator, Odum School of Ecology, University of Georgia (July 2017-August 2019). Implemented instructional assignments of faculty and maintained 5-year master teaching plan for the school. Communicated with Undergraduate and Graduate Program Advisors to load courses, ensure adequate classroom space and scheduling, and summer school funding. Coordinated student and peer teaching evaluations. Collaborated with Associate Dean and Academic Programs Committee to develop annual budget for graduate teaching assistants, and secure funds for classroom improvement and teaching equipment.

Associate Dean for Academic Affairs, Odum School of Ecology, University of Georgia (August 2012-July 2017) Led the school's academic activities and strategic planning for instruction, mentoring and advisement. Directed and supported faculty teaching and scholarship, degree programs and associated curricula, instructional facilities and infrastructure, as well as faculty and graduate student teaching assignments. Developed agendas for faculty meetings and assisted the dean with annual evaluations of faculty and determination of merit raise. Facilitated faculty searches and appointments, including graduate faculty status, and adjunct and courtesy appointments. Developed Student Learning Outcomes and served as SLO coordinator. Recruited and supervised Instructional Laboratory Coordinator. Assigned faculty instruction and managed equitable workload of teaching. Represented the school in monthly meetings with the Office of the Vice President for Instruction, and liaised with other associate deans and academic leaders on matters relating to academic programs. Participated in annual budgeting process with the Provost office.

OTHER SERVICE

A. University of Georgia (University-level service)

2023-24: Search Committee, Executive Director of the Wormsloe Center for Research and Education (appointed by the UGA Librarian and Associate Provost)

2022-23: *Review and search committee*, Vice Provost for Academic Affairs. (appointed by the Provost)

2020-21. *Review and search committee*, Vice President for Research, Office of Research. (appointed by the Provost)

2019-21. *University Promotion and Tenure Appeals Committee* (elected college representative)

2019-20. *QEP Topic Selection Committee* (for SACSOC reaffirmation process; appointed by the President)

2018-21. *University of Georgia Faculty Research Awards committee*. (appointed by the Vice President for Research)

2016-2019. *University of Georgia Research Foundation (UGARF) Board member*. (elected representative from University Council)

2016. *Meigs Teaching Professorship Selection Committee*. Appointed by the Provost.

2016-2019. *University Curriculum Committee*, and Life Sciences and Social Sciences sub-committees.

2016-17. *UGA Athletic Association Professor selection committee*, College of Engineering. Committee appointed by Dean of Engineering.

2015-16. *Science Learning Center Planning and Steering Committee*. Appointed by the Vice President for Instruction.

2015-16. *Promotion and Tenure Criteria Review Task Force*. Committee appointed by the Provost.

2013-15. *Robert C. Anderson Memorial Award selection committee*. Appointed by Vice President for Research.

2013. *Davison Chair faculty search committee*, College of Veterinary Medicine. Committee appointed by

Dean of Veterinary Medicine.

2009-2012. *UGA Distinguished Research Professorship selection committee*, appointed by the Vice President for Research.

2009-2010. *University of Georgia Research Advisory Council*, serving the Office of the Vice President for Research (OVPR).

2007-2008. *University Task Force on Research*, serving Provost and the Vice President for Research.

B. College-level service

Odum School of Ecology, University of Georgia

2023: *Odum Postdoctoral Scholar search committee*, Odum School of Ecology.

2023-present: *Promotion and tenure committee*, Odum School of Ecology.

2023: *Staff search committees*: Business operations manager; IT director. Odum School of Ecology.

2020-2021. *Promotion and Tenure Committee Chair*. Odum School of Ecology.

2020. *Vector Ecologist Faculty Search Committee*. Odum School of Ecology.

2019-2020. *Graduate Program Committee*. Odum School of Ecology.

2019-2020. *Faculty search committee co-chair*. Lecturer of Ecology.

2018-2020. *Strategic Planning Committee*, Odum School of Ecology.

2018-2019. *Odum Postdoctoral Scholar search committee*.

2018-2019. *Center for Infectious Disease Ecology Postdoctoral Scholar search committee*.

2018. *Faculty search committee co-chair*, Ecology Lab Coordinator/Academic Professional

2017-18. *Faculty search committee co-chair*, Two Ecology Lecturer hires. Odum School of Ecology.

2017-18. Odum School 50:10 Symposium/ Anniversary Planning Committee.

2015-2020. *IDEAS Graduate program steering committee member*.

2015-16. *Faculty search committee*, Ecology lecturer hire. Odum School of Ecology.

2015-16. *CURO Research Assistantship Liaison*. Odum School of Ecology.

2015-2019. *Experiential Learning Representative*. Odum School of Ecology.

2015-16. *Elements Administrative Liaison*, Odum School of Ecology.

2014-15. *Ecology A.B. degree planning committee*. Odum School of Ecology.

2013-2016. *Ecology seminar series committee*, Odum School of Ecology.

2012-2018. *Undergraduate Program Committee*. Odum School of Ecology.

2013-2014. *Vector Ecology faculty search committee*, Odum School of Ecology and College of Veterinary Medicine.

2012-present. NSF REU site program in the Population Biology of Infectious Diseases. One of 3 faculty coordinators for a summer undergraduate research program funded by NSF.

2012-2013. *Senior Ecologist faculty search committee*, Odum School of Ecology.

2012-2013. *Strategic planning committee*, Odum School of Ecology.

2008-2011. *Tenure and Promotion Committee*, Odum School of Ecology.

2008-2012. *Dean's Advisory Committee*, Odum School of Ecology.

2006-2007. *Seminar series coordinator*, Odum School of Ecology.

2005-2007. *Space committee*, Odum School of Ecology.
2007-2008. *Population Ecologist search committee*, Odum School of Ecology.
2005-2006. *Population Ecologist search committee*, Odum School of Ecology.
2005-2006. *Ecological Genetics search committee*, Department of Genetics.
2007-2008. *Evolutionary Ecologist search committee*, Odum School of Ecology.

Department of Environmental Studies and Population Biology Graduate Program, Emory University

2001-2004. *Graduate Committee co-chair*, Department of Environmental Studies.
2002. *Facilities and Equipment Coordinator*, Department of Environmental Studies.
2001-2004. *Director of Recruiting and Admissions*, Graduate Program in Pop. Biology, Ecology, and Evolution.
2002-2004. *Executive Committee*, Graduate Program in Population Biology, Ecology, and Evolution.
2002-2005. *Seminar Committee*, Graduate Program in Population Biology, Ecology, and Evolution.
2003-2004. *Scholarly Inquiry and Research at Emory Committee*
2004. *Faculty Science Council Participant*.
2004. *Strategic Planning Lunch Series with College Dean*.

C. Granting Agency Reviews and Panels

Grant Review Panelist, National Institutes of Health

2014, 2016. Genetic Variation and Evolution study section panelist.

Grant Review Panelist, National Science Foundation.

2017: Population and Community Ecology program review.

2013. Population and Community Ecology pre-proposal review panelist.

2012. Population and Community Ecology program panelist.

2009. Final site review team for NCEAS, an NSF-sponsored research center.

2008. Ecology program panelist.

2005. Evolutionary and Population Ecology program panelist.

Ad-hoc grant reviewer for the following funding agencies: National Science Foundation (ad-hoc referee); US Department of Agriculture, U.S. National Institutes of Health, Natural Environment Research Council (UK), Marsden Fund (NZ), Natural Sciences and Engineering Research Council (Canada), National Geographic Society; German Research Foundation

D. Other Professional Service

2012 – 2014. *Mercer Award Panel* (Ecological Society of America). Select recipients of ESA's Mercer Award for best paper from a young investigator.

2013. *External faculty search committee member*, Swiss Federal Institute of Technology, Zurich (ETHZ), Assistant Professor of Disease Ecology.

2010 – 2013. *Science Advisory Board*. NCEAS. Review working group proposals and advise on fundraising and future priorities.

E. Public service and outreach

- 2006-present: *MonarchHealth Community Science Project*. Launched in March 2006. We engage hundreds of volunteer participants from across North America in hands-on monitoring of parasites from wild populations of monarch butterflies. Managed through the Altizer lab at UGA, we host an educational website (www.monarchparasites.org), send sampling kits and educational materials to participants, analyze results of observer efforts, and communicate regularly with volunteers and nature enthusiasts to answer questions about monarchs, their parasites, and habitat needs. We also offer in-person and virtual lab tours to K-12 science teachers and students and nature enthusiasts.
- 2007-2022. *Insectival participant*, Event organized by Georgia State Botanical Gardens. Monarch butterfly migration and ecology station.
- 2014-2022 *Reynolds Public Lecture Series Presenter*. Topics: Monarch butterfly migration (2014); Pollinator gardens (2016); Native bees (2017); Secret lives of bats (2018); Insect apocalypse (2020); Monarch butterfly migration (2021); Wolves in the wilderness (2022)
- 2018: *Keynote speaker*, Georgia Pollinator Symposium. Monastery of the Holy Spirits, Conyers, GA.
- 2017: *Panelist*, *US Fish and Wildlife Service Expert Elicitation*, to review the proposed status of monarch butterflies as federally listed under the US Endangered Species Act.
- 2017: *Keynote speaker*, Georgia Pollinator Symposium. Monastery of the Holy Spirits, Conyers, GA.
- 2017: *Bobbin Mill Garden Club Lecture*. Gardening for monarchs and other butterflies. Athens, GA.
- 2016: *Rosalynn Carter Butterfly Trail Discovery Day Keynote speaker*. Carter Center, Atlanta, GA.
- 2015: *Butterfly Conservation Workshop Lecture*. Wormsloe Historical Site. *Butterfly gardens as tools for pollinator conservation*.
- 2010, 2011, 2012: Georgia Native Plant Symposium presenter for the Master Gardener course at Georgia State Botanical Gardens
- 2006-2010. *Environmental Outreach*, Monarchs Across Georgia, Advisory Board and workshop instructor.
- 2007: *Georgia's First Annual Butterfly Symposium*. Fernbank Science Ctr, Atlanta, GA. Keynote speaker. September 2007.
- 2006: Dunwoody Butterfly Festival participant (organized a booth on monarch butterfly ecology), Dunwoody Nature Center, Dunwoody, GA.
- 2006: Program speaker for Oconee River Audubon Society meeting, Athens, GA.
- 2004: Program speaker for Men's Garden Club of Atlanta, GA.
- 2004: *Environmental Outreach and Training*. National Wildlife Federation, Earth Tomorrow Summer Institute (for inner city students). Half-day field demonstration on urban wildlife.
- 2003: Program speaker for Audubon Society's Atlanta Chapter, Atlanta, GA.
- 2003-2005: Steering Committee to establish a new nature reserve, *Friendship Forest*, in Clarkston, GA.