

Andrew W. Park

CONTACT INFORMATION Odum School of Ecology
University of Georgia
Athens, GA 30602-2202 USA
Phone: (706) 540-6025
E-mail: awpark@uga.edu

ACADEMIC HISTORY

PRESENT RANK Professor, University of Georgia (2021 – present)

ALLOCATION OF EFFORT (% TIME) ASSIGNMENTS 60% Scholarship (0.449 EFT), 33% Teaching (0.248 EFT), 7% Service (0.053 EFT)

TENURE STATUS Tenured (2014)

HIGHEST DEGREE PhD Biology, University of Cambridge, UK, 2001

GRADUATE FACULTY STATUS Current

EDUCATION Undergraduate, Aston University, UK
B.S., Mathematics & Chemistry, 1991-1994
Masters graduate student, University of Dundee, UK
M.S., Mathematical Biology, 1995-1996 (Distinction)
PhD graduate student, University of Cambridge, UK
Ph.D., Biology, 1996-2001 (Advisor: Prof. Christopher A. Gilligan)

ACADEMIC POSITIONS Postdoctoral Fellow (2001-2003), Dept. Zoology (University of Cambridge, UK)
Postdoctoral Fellow (2004-2005), Dept. Mathematics & Statistics (York University, Canada) & Dept. Biology (Queen's University, Canada)
Visiting Fellow (2005) Australian National University
Postdoctoral Fellow (2005-2008), Swiss Federal Institute for Aquatic Science and Technology (Zürich, Switzerland) & Institut de Recherche pour le Développement (Montpellier, France)
Assistant Professor, University of Georgia (2008-2014)
Associate Professor, University of Georgia (2014-2021)
Professor, University of Georgia (2021 – present)

- Odum School of Ecology (2008 – present)
- Dept. Infectious Diseases, College of Veterinary Medicine (2008 – present)
- Faculty of Infectious Diseases (2008 – present)
- Institute of Bioinformatics (2008 – present)
- Bimolecular Health Sciences Institute (2014 – present)

POSTGRADUATE AWARDS 2005 International Visiting Fellowship - Australian National University (~\$5,000)

RESEARCH PROJECTS

ACTIVE RESEARCH INTERESTS

- Costs of parasite generalism
- Macroecology of host-parasite interactions
- Evolutionary ecology of cross-species parasite transmission
- Effects of host biodiversity on parasite transmission

RECOGNITION FOR EXCELLENCE IN RESEARCH

2011 **John M. Bowen Award for Excellence in Biomedical Research** (\$1,000, UGA award for developing an extramurally funded research program)

2014 **President Michael F. Adams Early Career Scholar Award** (\$2,000, Recognition by UGA of outstanding accomplishment and evidence of potential future success in scholarship, creative work or research by an early career faculty member in any discipline - up to one scholar per year)

RESEARCH GRANTS

2021-2027 **National Institutes for Health Center for Influenza Disease and Emergence Research (CIDER)** PI: M. Tompkins, Park is a Co-Investigator (Total \$7M)

2020-2025 **USDA-NIFA** (Interagency Ecology & Evolution of Infectious Diseases RFA) & **BBSRC** US-UK Collab: *The evolutionary ecology of pathogen emergence via cross-species transmission in the avian-equine influenza system* PI (US): A. Park (US Total \$1.06M), PI (UK): P. Murcia, Co-PIs: D. Perez, D. Rajao, M. Viana

2018-2021 **National Science Foundation** (Population & Community Ecology) *The macroecology of parasites of invasive host species* Sole PI (Total and amount to Park \$185,192)

2017-2018 **Carter Center** *Investigating the spatial and temporal drivers of *Dracunculus medinensis* epidemiology in Chad* PI: M. Yabsley, Co-PIs: A. Park, V. Ezenwa, R. Hall (Total \$90,362, amount to Park \$22,658)

2015 **National Science Foundation** (Rapid Award) *Fitting ebola multi-type branching process models to data* Sole PI (Total and amount to Park \$58,021)

2014-2019 **National Institutes of Health** (R01) *Forecasting tipping points in emerging and re-emerging infectious diseases* PI: J. Drake, Co-PIs: A. Park, B. Epureanu, M. Ferrari, P. Rohani (Total \$3.2M, amount to Park \$966,486)

2013-2014 **UGA One Health seed grant** *The ecology of leptospirosis* PI: A. Park, Co-PI: S. Rajeev (Total \$5,000, amount to Park \$4,500)

2013-2015 **Zoetis** *Mathematical modeling of heartworm transmission, drug resistance and intervention* PI: R. Kaplan, Co-PI: A. Park (Total \$41,541, amount to Park \$20,770)

2010-2015 **National Science Foundation** (Ecology & Evolution of Infectious Diseases) *Ecology of a reverse zoonosis: human-environment interactions in the transmission, persistence, and virulence of white pox disease in elkhorn coral* PI: J. Porter, Co-PIs: A. Park, J. Wares, E. Lipp, K. Sutherland (Total \$2.3M, amount to Park \$166,173)

2009-2013 **McDonnell Foundation** (Complex Systems) *Transient pathogen evolution in heterogeneous host populations* Sole PI (Total and amount to Park \$462,828)

RESEARCH
GRANTS
(SUPPORTING
ROLE)

2016-2019 **BBSRC** (United States-UK Partnering Award) *Co-infection and resistance (CORE)* PI: E. Devaney, Park was a core participant and assisted in grant writing (Total £49,898, amount to Park \$0)

2013-2017 **National Science Foundation** (Research Coordination Network) *The macroecology of infectious diseases* PI: P. Stephens, Park was a core participant and assisted in grant writing (Total \$500,000, amount to Park \$0)

SCHOLARLY
ACTIVITIES

BOOK CHAPTERS

Drake, J.M. & Park, A.W. 2016. A model for coupled outbreaks contained by behavior change. In: *Mathematical and Statistical Modeling for Emerging and Re-emerging Infectious Diseases* (Eds: Chowell, G. & Hyman, J.M.) Springer International Publishing Switzerland

(doi: 10.1007/978-3-319-40413-4.3)

Newton, J.R., Park, A.W. & Wood, J.L.N. 2004. Maximizing the benefits of vaccination against equine influenza. In: *Equine respiratory diseases* (Ed: Lekeux, P.) IVIS Ithaca New York

(doi: <https://www.ivis.org/library/equine-respiratory-diseases/maximizing-benefits-of-vaccination-against-equine-influenza>)

JOURNAL ARTICLES

† Denotes senior authorship of multi-author papers; * Denotes mentee authorship. Unless otherwise stated, all works are peer-reviewed, original research.

59. Schatz^{*}, A.M. & Park[†], A.W. 2023. Patterns of host-parasite co-invasion promote enemy release and specialist parasite spillover. *J. Anim. Ecol.*
(doi: 10.1111/1365-2656.13910)
58. Sutherland, K.P., Griffin^{*}, A.P., Park, A.W., Heron, S.F., Eakin, C.M., Berry^{*}, B., Kemp, D.W., Kemp, K.M., Lipp, E.K., Wares, J.P., & Porter, J.W. 2023. Twenty-year record of white pox disease in the Florida Keys: Importance of demographics and environmental risk factors as drivers of coral health. *Dis. Aquat. Org.*
(doi: 10.3354/dao03727)
57. Cleveland^{*}, C.A., Dallas, T.A., Vigil, S., Mead, D.G., Corn, J.L. & Park[†], A.W. 2023. Vector communities under global change may exacerbate and redistribute infectious disease risk. *Parasitol. Res.*
(doi: 10.1007/s00436-023-07799-2)
56. Tredennick, A.T., O’Dea, E.B., Ferrari, M.J., Park, A.W., Rohani, P. & Drake, J.M. 2022. Anticipating infectious disease re-emergence and elimination: a test of early warning signals using empirically based models. *J. Roy. Soc. Interface*
(doi: 10.1098/rsif.2022.0123)
55. Farrell, M.J., Park, A.W., Cressler, C.E., Dallas, T., Huang S., Mideo, N., Morales-Castilla, I., Davies, T.J. & Stephens P. 2021. The ghost of hosts past: impacts of host extinction on parasite specificity. *Phil. Trans. R. Soc. B*
(doi: 10.1098/rstb.2020.0351)
54. Vinson^{*}, J.E., Park, A.W., Cleveland, C.A., Yabsley, M.J., Ezenwa, V.O. & Hall, R.J. 2021. Alternative transmission pathways for guinea worm in dogs: implications for outbreak risk and control. *Int. J. Parasitol.*
(doi: 10.1016/j.ijpara.2021.05.005)

53. Schatz^{*}, A.M. & Park[†], A.W. 2021. Host and parasite traits predict cross-species parasite acquisition by introduced mammals. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2021.0341)
52. Taylor, K, Wilson, J.J., Park, A.W., Nemeth, N.M. Yabsley, M.J., Fenton, H., Keel, M.K. & Gottdenker, N.L. 2021. Temporal and spatial patterns in Canine Distemper Virus cases in wildlife diagnosed at the Southeastern Cooperative Wildlife Disease Study (SCWDS), 1975-2019. *J. Wildlife Dis.* (doi: 10.7589/JWD-D-20-00212)
51. Park, A.W. 2020. Trip duration modifies spatial spread of infectious diseases (peer-reviewed invited commentary). *PNAS* (doi: 10.1073/pnas.2015730117)
50. Richards, R.L., Cleveland, C.A., Hall, R.J., Tchindebet Ouakou, P., Park, A.W., Ruiz-Tiben, E., Weiss, A., Yabsley, M.J. & Ezenwa, V.O. 2020. Identifying correlates of Guinea worm (*Dracunculus medinensis*) infection in domestic dog populations. *PLoS Neglected Tropical Diseases* (doi: 10.1371/journal.pntd.0008620)
49. Park, A.W. & Ezenwa, V.O. 2020. Characterizing interactions between co-infecting parasites using age-intensity profiles. *Int. J. Parasitol.* (doi: 10.1016/j.ijpara.2019.11.001)
48. Park, A.W. 2019. Phylogenetic aggregation increases zoonotic potential of mammalian viruses. *Biol. Lett.* (doi: 10.1098/rsbl.2019.0668)
47. Vinson^{*}, J.E. & Park[†], A.W. 2019. Vector-borne parasite invasion in communities across space and time. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2019.2614)
46. Pappalardo, P., Morales-Castilla, I., Park, A.W., Huang, S., Schmidt J.P. & Stephens, P.R. 2019. Comparing methods for mapping global parasite diversity. *Global Ecology & Biogeog.* (doi: 10.1111/geb.13008)
45. Park, A.W. 2019. Food web structure selects for parasite host range. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2019.1277)
44. Hodgkinson, J.E., Kaplan, R.M., Kenyon, F., Morgan, E.R., Park, A.W., Paterson, S., Babayan, S.A., Beesley, N.J., Britton, C., Chaudray, U., Doyle, S.R., Ezenwa, V.O., Fenton, A., Howell, S.B., Laing, R., Mable, B.K., Matthews, L., McIntyre, J., Milne, C.E., Morrison, T.A., Prentice, J.C., Sargison, N.D., Williams, D.J.L., Wolstenholme, A.J. & Devaney, E. 2019. Refugia and anthelmintic resistance: Concepts and challenges. *Int. J. Parasitol.: Drugs & Drug Res.* (doi: 10.1016/j.ijpddr.2019.05.001)
43. Drake, J.M., Brett, T.S., Chen, S., Epureanu, B.I., Ferrari, M.J., Marty, E., Miller P.B., ODea^{*}, E.B., O'Regan, S.M., Park, A.W. & Rohani P. 2019. The statistics of epidemic transitions. *PLoS Computational Biology* (doi: 10.1371/journal.pcbi.1006917)
42. Vilches, T., Bonesso, M., Guerra, H., Fortaleza, C., Park, A.W. & Ferreira, C. 2019. The role of intra and inter-hospital patient transfer in the dissemination of healthcare-associated multidrug-resistant pathogens. *Epidemics* (doi: 10.1016/j.epidem.2018.11.001)

41. Dallas, T., Han, B.A., Nunn, C.L., Park, A.W., Stephens, P.R. & Drake, J.M. 2018. Host traits associated with species roles in parasite sharing networks. *Oikos* (doi: 10.1111/oik.05602)
40. Brett, T.S., O’Dea*, E.B., Marty, E., Miller, P.B., Park, A.W., Drake, J.M. & Rohani, P. 2018. Anticipating epidemic transitions with imperfect data. *PLOS Computational Biology* (doi: 10.1371/journal.pcbi.1006204)
39. O’Dea*, E.B., Park, A.W. & Drake, J.M. 2018. Estimating the distance to an epidemic threshold. *J. Roy. Soc. Interface* (doi: 10.1098/rsif.2018.0034)
38. Park, A.W., Farrell, M.J., Schmidt, J.P., Huang, S., Dallas, T.A., Pappalardo, P., Drake J.M., Stephens, P.R., Poulin, R., Nunn, C.L. & Davies, T.J. 2018. Characterizing the phylogenetic specialism-generalism spectrum of mammal parasites. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2017.2613)
37. Dallas, T., Huang, S., Nunn, C.L., Park, A.W. & Drake, J.M. 2017. Estimating parasite host range. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2017.1250)
36. Dallas, T., Park, A.W. & Drake, J.M. 2017. Predicting cryptic links in host-parasite networks. *PLOS Computational Biology* (doi: 10.1371/journal.pcbi.1005557)
35. 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., & Nunn, C.L. 2017. Global Mammal Parasite Database version 2.0. *Ecology* (doi: 10.1002/ecy.1799)
34. Schmidt, J.P., Park, A.W., Kramer, A., Han, B.A., Alexander*, L.W. & Drake, J.M. 2017. Spatiotemporal fluctuations and triggers of Ebolavirus spillover. *Emerging Infectious Diseases* (doi: 10.3201/eid2303.160101)
33. Dallas, T.A., Park, A.W. & Drake J.M. 2017. Predictability of helminth parasite host range using information on geography, host traits and parasite community structure. *Parasitology* (doi: 10.1017/S0031182016001608)
32. Dibble*, C.J., O’Dea*, E.B., Park, A.W. & Drake, J.M. 2016. Waiting time to infectious disease emergence. *J. Roy. Soc. Interface* (doi: 10.1098/rsif.2016.0540)
31. Kramer, A., Pulliam, J., Alexander*, L., Park, A.W., Rohani, P., & Drake, J.M. 2016. Spatial spread of the West Africa Ebola epidemic. *Roy. Soc. Open Science* (doi: 10.1098/rsos.160294)
30. Stephens, P.R., Altizer, S., Smith, K., Aguirre, A., Brown, J., Budischak, S., Byers, J.E., Dallas, T.A., Davies, J., Drake, J.M., Ezenwa, V., Farrell, M., Gittleman, J.G., Han, B.A., Huang, S., Hutchinson, R., Johnson, P., Nunn, C., Onstad, D., Park, A.W., Vazquez-Prokopec, G., Schmidt, J.P. & Poulin, R. 2016. The macroecology of infectious diseases: a new perspective on global-scale drivers of pathogen distributions and impacts. *Ecology Letters* (doi: 10.1111/ele.12644)

29. Vinson^{*}, J.E., Drake, J.M., Rohani, P. & Park[†], A.W. 2016. The potential for sexual transmission to compromise control of Ebola virus outbreaks. *Biology Letters*
(doi: 10.1098/rsbl.2015.1079)
28. Sutherland, K.P., Berry^{*}, B., Park, A.W., Kemp, D.W., Kemp, K.M., Lipp, E.K. & Porter J.W. 2016. Shifting white pox etiologies affecting *Acropora palmata* in the Florida Keys, 1994-2014. *Phil. Trans. R. Soc. B.*
(doi: 10.1098/rstb.2015.0205)
27. Park, A.W., Haven^{*}, J., Kaplan, R. & Gandon S. 2015. Refugia and the evolutionary epidemiology of drug resistance. *Biology Letters*
(doi: 10.1098/rsbl.2015.0783)
26. O'Regan^{*}, S.M., Vinson^{*}, J.E. & Park[†], A.W. 2015. Interspecific contact and competition may affect the strength and direction of disease-diversity relationships for directly transmitted microparasites. *American Naturalist*
(doi: doi.org/10.1086/682721)
25. Park, A.W., Cleveland^{*}, C.A., Dallas, T.A., & Corn, J.L. 2015. Vector species richness increases hemorrhagic disease prevalence through functional diversity modulating the duration of seasonal transmission. *Parasitology*
(doi: 10.1017/S0031182015000578)
24. Drake, J.M, Kaul, R.B., Alexander^{*}, L.W., O'Regan^{*}, S.M., Kramer, A.M., Pulliam T.J., Ferrari, M.J., & Park, A.W. 2015. Ebola cases and health system demand in Liberia. *PLoS Biology*
(doi: 10.1371/journal.pbio.1002056)
23. Han, B.A., Park, A.W., Jolles, A., & Altizer, S. 2015. Infectious disease transmission and behavioral allometry in wild mammals. *J. Anim. Ecol.*
(doi: 10.1111/1365-2656.12336)
22. Stallknecht, D.E., Allison, A.B., Park, A.W., Phillips, J.E., Goekjian, V.H., Nettles, V.F. & Fishcher, J.R. 2014. Apparent increase of reported and confirmed hemorrhagic disease in the Midwest and Northeast United States. *J. Wildlife Dis.*
(doi: 10.7589/2013-12-330)
21. Park, A.W., Vandekerkhove, J. & Michalakis, Y. 2014. Sex in an uncertain world: environmental stochasticity helps restore competitive balance between sexually and asexually reproducing populations. *J. Evol. Biol.*
(doi: 10.1111/jeb.12419)
20. Haven^{*}, J. & Park[†], A.W. 2013. Superinfection reconciles host-parasite association and cross-species transmission. *Theor. Pop. Biol.*
(doi: 10.1016/j.tpb.2013.09.015)
19. Daly, J.M., Newton, J.R., Wood, J.L.N. & Park, A.W. 2013. What can mathematical models bring to the control of equine influenza? *Eq. Vet. J.*
(doi: 10.1111/evj.12104)
18. Magori^{*}, K & Park[†], A.W. 2013. The evolutionary consequences of alternative types of imperfect vaccines. *J. Math. Biol.*
(doi: 10.1007/s00285-013-0654-x)
17. Berry^{*}, B.S., Magori^{*}, K., Perofsky^{*}, A.C., Stallknecht, D.E. & Park[†], A.W. 2013. Wetland cover dynamics drive hemorrhagic disease patterns in white-tailed deer in the United States. *J. Wildlife Dis.*
(doi: 10.7589/2012-11-283)

16. Park, A.W., Magori*, K., White*, B.A. & Stallknecht, D.E. 2013. When more transmission equals less disease: reconciling the disconnect between disease hotspots and parasite transmission. *PLoS One* (doi: 10.1371/journal.pone.0061501)
15. Haven*, J., Magori*, K. & Park†, A.W. 2012. Ecological and inhost factors promoting distinct life-history strategies in Lyme borreliosis. *Epidemics* (doi: 10.1016/j.epidem.2012.07.001)
14. Park, A.W. 2012. Infectious disease in animal metapopulations: the importance of environmental transmission. *Ecol. Evol.* (doi: 10.1002/ece3.257)
13. Park, A.W., Jokela, J. & Michalakis, Y. 2010. Parasites and deleterious mutations: interactions influencing the evolutionary maintenance of sex. *J. Evol. Biol.* (doi: 10.1111/j.1420-9101.2010.01972.x)
12. Park, A.W., Daly, J.M., Lewis, N.S., Smith, D.J., Wood, J.L.N. & Grenfell, B.T. 2009. Quantifying the impact of immune escape on transmission dynamics of influenza. *Science* (doi: 10.1126/science.1175980)
11. Park, A.W. & Glass, K. 2007. Dynamic patterns of avian and human influenza in East and South East Asia. *Lancet Inf. Dis.* (doi: 10.1016/S1473-3099(07)70186-X)
10. Day, T., André, J.B. & Park, A.W. 2006. The evolutionary emergence of pandemic influenza. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2006.3638)
9. Day, T., Park, A.W., Madras, N., Gumel, A. & Wu, J. 2006. When is quarantine a useful control strategy for emerging infectious diseases? *Am. J. Epidemiology* (doi: 10.1093/aje/kwj056)
8. Park, A.W., Wood, J.L.N., Daly, J.M., Newton, J.R., Glass, K., Henley, W., Mumford, J.A & Grenfell, B.T. 2004. The effects of strain heterology on the epidemiology of equine influenza in a vaccinated population. *Proc. R. Soc. Lond. B* (doi: 10.1098/rspb.2004.2766)
7. Daly, J.M., Yates, P.J., Newton, J.R., Park, A.W., Henley, W., Wood, J.L.N., Davis-Poynter, N. & Mumford, J.A. 2004. Evidence supporting the inclusion of strains from each of the two co-circulating lineages of H3N8 equine influenza virus in vaccines. *Vaccine* (doi: 10.1016/j.vaccine.2004.02.048)
6. Wood, J.L.N., Kelly, L., Cardwell, J.M. & Park, A.W. 2004. Results of a quantitative assessment of the risks of reducing routine swabbing requirements for the detection of *Taylor equigenitalis*. *Vet. Rec.* (doi: 10.1136/vr.157.2.41)
5. Park, A.W., Wood, J.L.N., Newton, J.R., Daly, J.M., Mumford, J.A & Grenfell, B.T. 2003. Optimizing vaccination strategies in equine influenza. *Vaccine* (doi: 10.1016/s0264-410x(03)00156-7)
4. Wood, J.L.N., Newton, J.R., Daly, J.M., Park, A.W. & Mumford, J.A. 2003. It's all in the mix: infection transmission in populations. *Eq. Vet. J.* (doi: 10.2746/042516403775467315)
3. Park, A.W., Gubbins, S. & Gilligan, C.A. 2002. Extinction times for closed epidemics: the effects of host spatial structure. *Ecology Letters* (doi: 10.1046/j.1461-0248.2002.00378.x)

2. Park, A.W., Gubbins, S. & Gilligan, C.A. 2001. Invasion and persistence of plant parasites in a spatially structured metapopulation. *Oikos* (doi: 10.1034/j.1600-0706.2001.10489.x)
1. Davidson, F.A. & Park, A.W. 1998. A mathematical model for fungal development in heterogeneous environments. *Appl. Math. Lett.* (doi: 10.1016/S0893-9659(98)00102-5)

COMPLETED
MANUSCRIPT
DRAFTS (INCL.
IN REVISION &
IN REVIEW)

Lance, S.L., Coleman, A., Capps, K.A., Scott, D.E. & Park, A.W. Environmental factors and community ecology drive patterns of ranavirus infections (in revision).
Schatz, A.M. & Park, A.W. Broad support for the vacated niche hypothesis in mammalian parasites (in review).
Suh, D.C., Lance, S.L. & Park, A.W. Abiotic and biotic factors jointly influence the contact and environmental transmission of a generalist pathogen (in review).

LETTERS TO
EDITORS

Rivers, C., Alexander, K., Bellan, S., Del Valle, S., Drake, J.M., Eisenberg, J.N.S., Eubank, S., Ferrari, M., Halloran, M.E., Galvani, A., Lewis, B.L., Lewnard, J., Lofgren, E., Macal, C., Marathe, M., Ndeo Mbah, M.L., Ancel Meyers, L., Meza, R., Park, A.W., Porco, T., Scarpino, S.V., Shaman, J., Vespignani, A. & Yang, W. 2014. Ebola: models do more than forecast (letter to the editor). *Nature* (doi: 10.1038/515492a)

ENCYCLOPEDIA
ENTRIES

Park, A.W. & Day, T. 2007. Quarantine and isolation. In: *Encyclopedia of Epidemiology*, Sage Publishing. (doi: 10.4135/9781412953948.n383)

CONFERENCE
PROCEEDINGS

Park, A.W., Wood, J.L.N., Newton, J.R., Daly, J., Mumford, J.A., Glass, K. & Grenfell, B.T. 2002. Modelling equine influenza: epidemiology, vaccination, spatial spread and strain variation. *Proc. Soc. Vet. Epidem. Prev. Med.* (ISBN 0 948073 54 3, pp: 48-60)

INVITED REVIEWS

Park, A.W. 1998. Plants fight back against fungi. *Trends Plant Sci.* (doi: 10.1016/S1360-1385(98)01300-4)

INVITED
PRESENTATIONS

2010 Invited speaker at Emory University Graduate Student Association, Population Biology, Ecology & Evolution seminar, Atlanta, GA
2011 Invited participant and speaker at Phylogenetics workshop, NESCENT, Durham, NC
2011 Invited participant and speaker at UGA & University of Liverpool Biomedical Sciences joint initiative, Atlanta, GA
2012 Invited participant and speaker at Mathematical Biosciences Institute Workshop on Evolution and spread of infectious diseases, Columbus, OH
2012 Invited speaker at Institute of Bioinformatics modeling symposium, UGA
2013 Invited speaker at University of Michigan, Ecology, Evolution and Behavior (post-doctoral associates annual invitation), Ann Arbor, MI
2013 Research presentation at Fayetteville State University, to raise awareness of UGA's REU site Population Biology of Infectious Diseases, Fayetteville, NC

2015 Invited speaker at Georgia Tech Ebola Workshop, Atlanta, GA

2015 Invited speaker at Tulane University, Ecology and Evolution seminar, New Orleans, LA

2015 Invited keynote speaker at American Association of Veterinary Parasitologists, Boston, MA

2017 Invited speaker at North Carolina State University, Entomology & Plant Pathology seminar, Raleigh, NC

2017 Invited speaker at Triangle Center for Evolutionary Medicine (TriCEM), Durham, NC

2018 Invited speaker at University of Nebraska, Biological Sciences seminar, Lincoln, NE

2018 Invited participant and speaker at Mathematical Biosciences Institute Workshop on Socioepidemiology, Columbus, OH

2018 Invited speaker at Drug Resistance and Refugia workshop, Glasgow, UK

2018 Invited participant at Gates Foundation Guinea worm eradication meeting, Seattle, WA

2018 Invited symposium organizer at Evolution, Montpellier, France

2019 Invited speaker at Pathogens gone global: Disease ecology & evolution in a changing world, Duke University, NC

2020 Invited speaker at UC Berkeley EEID seminar series, UC Berkeley, CA (live video)

2022 Invited speaker at University of South Carolina, Biology seminar, Columbia, SC

2022 Invited speaker at University of Glasgow 'Landscape, Pasture & Parasites' UK meeting (live video)

SOCIETY
CONFERENCE
PRESENTATIONS

2005 Quantifying the impact of immune escape on transmission dynamics of influenza, Ecological Society of America (Montreal, Canada)

2007 Ploidy, parasites and deleterious mutations: interactions influencing the evolutionary maintenance of sex, European Society for Evolutionary Biology (Uppsala, Sweden)

2009 Parasites and deleterious mutations: interactions influencing the evolutionary maintenance of sex, Ecological Society of America (Albuquerque, NM)

2010 Parasites and deleterious mutations: interactions influencing the evolutionary maintenance of sex, American Society for the Study of Evolution (Portland, OR)

2011 Sex in an uncertain world: Unpredictable environments restore competitive balance between sexually and asexually reproducing populations, Ecological Society of America (Austin, TX)

2013 Trouble where you least expect it: Causes and consequences of disconnects between transmission and disease hotspots in a vector-borne wildlife disease, Ecology & Evolution of Infectious Diseases (Penn State, PA)

2017 Phylogenetic generalism in mammal parasites, Ecological Society of America (Portland, OR)

2018 Population biology of infectious diseases, special session on education, Ecology & Evolution of Infectious Diseases (Glasgow, Scotland)

2018 The cost of generalism and definitive host diet breadth influence intermediate host specificity in helminth parasites, Evolution (Montpellier, France)

2019 Food webs select for parasite specificity, British Ecological Society Macroecology Special Interest Group (Cornwall, England)

2019 Phylogenetic aggregation increases zoonotic potential of mammalian viruses, British Ecological Society (Belfast, Northern Ireland)

2023 Costs of parasite generalism revealed by abundance patterns across mammalian hosts (Belfast, Northern Ireland)

INSTRUCTION

COURSES TAUGHT *Population and community ecology* (ECOL 4000/6000, 3CR, 50% effort, except 2012 100%)
Fall: 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
Typical enrollment: 40

Population biology of infectious diseases (ECOL/BIOL 4150L/6150L, 4CR, 50% effort)
Spring: 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2019, 2021, 2022, 2023
Typical enrollment: 40

Modeling infectious diseases (EPID/ECOL/IDIS 8515L, 4CR, 50% effort)
Fall: 2009
Typical enrollment: 15

Cross disciplinary ecology (ECOL 8030, 1CR, 25% effort)
Fall: 2010
Typical enrollment: 30

Ecology and evolution of infectious diseases (IDIS 8050, 1CR, 50% effort, except 2021 100%)
Fall: 2011, 2013, 2015, 2018, 2021; Spring 2023
Typical enrollment: 30

Research methods in disease ecology (ECOL/IDIS 8140L, 4CR, 50% effort)
Fall: 2012
Typical enrollment: 10

Topics in modern ecology (ECOL 8000, 3CR, 25% effort)
Fall: 2016, 2017, 2023
Typical enrollment: 15

Fundamentals of disease biology (ECOL 8510L, 4CR, 50% effort)
Fall: 2016, 2017, 2019, 2020
Typical enrollment: 20

Vaccines: From design to development (IDIS 8020, 3CR, 10% effort)
Fall: 2016, 2017, 2019
Typical enrollment: 15

Scientific programming (ECOL 8540, 2CR, 50% effort):
Maymester: 2017, 2019, 2020, 2021, 2022
Typical enrollment: 20

Understanding and communicating uncertainty (FYOS 1001, 1CR, 100% effort)
Spring: 2017
Typical enrollment: 15

Evolutionary medicine (ECOL 3820, 3CR, 50% effort)
Fall: 2022, 2023
Typical enrollment: 50

Parasite Rex (FYOS 1001, 1CR, 100% effort)
Spring: Fall 2023
Typical enrollment: 15

DEVELOPMENT OF
NEW COURSES

Population and community ecology (ECOL 4000/6000): Devised new computational research projects (2016)

Population biology of infectious diseases (ECOL/BIOL 4150L/6150L): Devised new lab activities and new lectures (2012-present)

Modeling infectious diseases (EPID/ECOL/IDIS 8515L): New course (2009)

Cross disciplinary ecology (ECOL 8030): Devised new modules (2010)

Ecology and evolution of infectious diseases (IDIS 8050): New course (2011)

Research methods in disease ecology (ECOL/IDIS 8140L): New course (2012)

Topics in modern ecology (ECOL 8000): Devised new modules (2016, 2017)

Fundamentals of disease biology (ECOL 8510L): New course and new modules (2016, 2017, 2019)

Vaccines: From design to development (IDIS 8020): Devised new lectures and activities (2016)

Scientific programming (ECOL 8540): New course (2017)

Understanding and communicating uncertainty (FYOS 1001): New course (2017)

Evolutionary medicine (ECOL 3820): Devised new lectures (2022)

Parasite Rex (FYOS 1001): New course (2023)

THESES
DIRECTED

Brett Berry, MS Ecology (joint supervision with Dr. J. Porter), 2013-2016 “Quantifying the effects of White Pox disease and bleaching in elkhorn coral in the Florida Keys from 1994-2014” - Currently Associate, GA State Environmental Protection Division

Chris Cleveland, MS Population Health (joint supervision with Dr. J. Corn), 2013-2015 “Metacommunity ecology links environmental drivers to *Culicoides* spp. communities and hemorrhagic disease reports in the southeastern United States” - Currently Assistant Professor SCWDS, UGA

Ashton Griffin, PhD Ecology (joint supervision with Dr. J. Porter), 2012-2018 “Understanding and predicting coral disease across scales” - Currently Data Scientist, MailChimp, Atlanta GA

Carlos Molinero Sampedro, PhD Ecology, Topic: Macroecology of parasites of birds, expected 2027

TJ Odom, PhD Ecology (joint supervision with Dr. S. Altizer), Topic: Consequences of climate-tracking species on their host-parasite interactions, expected 2025

John Vinson, PhD Ecology, 2013-2020 “Vector-borne parasite transmission potential in ecological communities” - Currently Post-doctoral associate, Center for Ecology of Infectious Diseases, UGA

David Vasquez, MS Ecology, Topic: The role of host, environment, and co-infecting parasites on parasite abundance and distribution, withdrew 2021

Annakate Schatz, PhD Ecology, Topic: The macroecology of parasites of invasive host species, expected 2024

Daniel Suh, PhD Ecology, Topic: Community competence and amphibian pathogen transmission, expected 2024

THESIS
COMMITTEES

Amy Briggs, PhD Ecology (advisor: Craig Osenberg, completed 2022)
Mary Browning, MS Genetics (advisor: Nancy Manley, completed 2015)
Sarah Bowden, PhD Ecology (advisor: John Drake, completed 2016)
Austin Coleman, MS Ecology (advisor: Stacey Lance, completed 2018)
Tad Dallas, PhD Ecology (advisor: John Drake, completed 2016)
Lambodhar Damodaran, PhD Bioinformatics (advisor: Justin Bahl, completed 2023)
Ming Fung, MS Pathology (advisor: Nicole Gottdenker, completed 2012)
Elizabeth Hamman, PhD Ecology (advisor: Craig Osenberg, completed 2017)
Juliana Hoyos, PhD Ecology (advisor: Sonia Altizer, Nicole Gottdenker, ongoing)
Reni Kaul, PhD Ecology (advisor: John Drake, completed 2021)
Shamus Keeler, PhD Population Health (advisor: Dave Stallknecht, completed 2012)
Yan Li, PhD Public Health (advisor: Andreas Handel, completed 2013)
Leke, Lyu, PhD Bioinformatics (advisor: Justin Bahl, ongoing)
Paige Miller, PhD Ecology (advisor: John Drake, completed 2020)
Mike Newberry, PhD Ecology (advisor: Sonia Altizer, Courtney Murdock, ongoing)
Robbie Richards, PhD Ecology (advisor: John Drake, Vanessa Ezenwa, completed 2021)
Kate Sabey, PhD Infectious Diseases (advisor: Vanessa Ezenwa, completed 2023)
Dara Satterfield, PhD Ecology (advisor: Sonia Altizer, completed 2016)
Katie Schroeder, PhD Ecology (advisor: Alex Strauss, ongoing)
Brittany Seibert, PhD Comparative Biomedical Sciences (advisor: Daniel Perez, completed 2022)
Megan Tomamichel, PhD Ecology (advisor: Jeb Byers, Richard Hall, ongoing)
Kathryn Worsley-Tonks, MS Ecology (advisor: Vanessa Ezenwa, completed 2012)
Rachel Xu, PhD Bioinformatics (advisor: Liliana Salvador, completed 2023)
Nibiao Zheng, PhD Public Health (advisor: Andreas Handel, completed 2013)

UNDERGRADUATE
MENTORSHIP

2009 Amanda Perofsky: Spatio-temporal dynamics of epizootic hemorrhagic disease (research assistant)
2010 Ashton Griffin: Spatial tracking of infectious diseases (directed reading)
2010 Elliot Rickett: Population and community ecology (directed reading)
2010 Brad White: Effect of deer density on spread of viral epizootic hemorrhagic disease (research credit)
2011 Brett Berry: The effects of land use changes on epizootic hemorrhagic disease over a 30-year period in the US (research credit)
2011 Kamran Mohammad: Synthesis of empirical data and theoretical techniques to establish rate of emergence of drug resistance in macroparasites (research credit)
2011 Kamran Mohammad: Host demography and epidemic size variability of influenza outbreak (research credit)
2011 Brad White: Modeling the ecological niche of *Culicoides* species (research credit)
2012 Matt Foretitch: Ecological models and data in R (directed reading)
2012 Scott Saunders: Predicting the effect of climate change on the distribution of invasive Lyme disease strains (research credit)

2012 Laura Alexander: Understanding the role of vector overwintering on the dynamics of epizootic hemorrhagic disease (research credit)

2013 Paige Miller: The perfect storm - factors that lead to increased transmission and resistance emergence of heartworm in the US (NSF REU summer student)

2013 Javier Alarcon-Valenzuela: The role of biodiversity in predicting pathogenic *Leptospira* species prevalence in the state of Georgia (foreign exchange student)

2014 Laura Alexander: Spatial spread of Ebola virus in West Africa (research assistant)

2015 John Roquet: Biodiversity and disease - variation of West Nile virus outbreaks (research credit)

2017 Jenna Lea: Analysis of tick and tick-borne parasite sharing in terrestrial mammals (research credit)

2017 Keri-Niyia Cooper: Parasite sharing in marine and terrestrial mammals (NSF REU summer student)

2019-2020 Grant Foster: Macroecology of complex lifecycle parasites (NSF-funded research assistant)

2022-ongoing Finn Walsh: Parasite sharing between terrestrial and marine mammals (freshman research experience)

POSTDOCTORAL
MENTORSHIP

2010-2012 Krisztian Magori: Modeling, Hemorrhagic disease, Vaccine escape, Cross-species transmission - Currently Faculty at Eastern Washington University

2011-2014 James Haven: Modeling, Lyme disease, Parasite generalism vs specialism - Currently employed in private health sector

2013-2014 Suzanne O'Regan: Mathematical modeling of infectious diseases, Theoretical development of disease-diversity relationships - Currently research faculty at UGA

2015 Chris Dibble: Bifurcation delay in infectious disease systems at critical points (joint with John Drake) - Currently Research Scientist, Battelle

2015-2019 Eamon O'Dea: Modeling infectious diseases at critical points (joint with John Drake) - Currently employed as data scientist in private sector

RECOGNITION FOR
EXCELLENCE IN
TEACHING

2010 President's Venture Fund UGA - Computational Ecology Workshops (\$3,000)

2011 UGA Lilly Fellowship (\$2,000, one of 10 tenure-track faculty selected into 2-year program for excellence in instruction)

2012 Odum School of Ecology undergraduate instruction award

TRAINING IN
MENTORSHIP

2019 Faculty mentoring workshop

2022 Faculty mentoring workshop

INSTRUCTIONAL
GRANTS

2015 **National Science Foundation** (Ecology & Evolution of Infectious Diseases) *Conference Support for Ecology and Evolution of Infectious Diseases international conference 2015* Co-PIs: A. Park, S. Altizer (Total \$6,000, amount to Park \$3,000)

INSTRUCTIONAL GRANTS (SUPPORTING ROLE)

2017-2022 **National Science Foundation** (Research Experience for Undergraduates Site Award) *Population biology of infectious diseases* PI: J. Drake, Park was Senior Personnel (Total \$558,756, amount to Park \$0)

2015-2020 **National Science Foundation** (NRT-DESE: Interdisciplinary Disease Ecology Across Scales: from byte to benchtop to biosphere) PI: V. Ezenwa, Park was Senior Personnel and contributed to grant writing (Total \$3M, amount to Park \$0)

2014-2017 **National Institutes of Health** (Training Award) *Post-baccalaureate training in infectious disease research* PIs: J. Moore, M. Tompkins, Park was Key Personnel (Total \$1.59M, amount to Park \$0)

2012 **National Science Foundation** (Research Experience for Undergraduates Project Award) *Water quality patterns and coral disease processes in the Florida Keys* PI: J. Porter, Co-PI: A. Park (Total \$9,000, amount to Park \$0)

2012-2015 **National Science Foundation** (Research Experience for Undergraduates Site Award) *Population biology of infectious diseases* PI: J. Drake, Park was Senior Personnel (Total \$283,500, amount to Park \$0)

TRAINEE ACHIEVEMENTS

2011 Brett Berry: Laerm award (Odum School outstanding undergraduate)

2017 John Vinson: Teaching certificate (developing calculus curriculum for life sciences majors)

2017 John Vinson: Odum School best paper award

2017 David Vasquez: NSF GRFP award

2017 Jenna Lea: Fellowship, Center for Undergraduate Research Opportunities

2019 Annakate Schatz: Minorities in Natural Resources Conservation Stipend

2021 Daniel Suh: NSF GRFP award

2021 TJ Odom: Laerm award (Georgia Museum of Natural History graduate award)

2021 TJ Odom: Sigma-Xi award

2021 TJ Odom: Odum School small grant

2023 Annakate Schatz: ESA Disease Ecology best paper award

PROFESSIONAL SERVICE

SERVICE TO PROFESSIONAL SOCIETIES

2014-2015 Co-chair Ecology and Evolution of Infectious Diseases 13th International Conference Steering committee

EDITORIAL BOARDS

Journal of Animal Ecology (Associate Editor: 2022 – present)

Journal of Applied Ecology (Associate Editor: 2018 – 2022)

Ecosphere (Associate Editor: 2013 – 2018)

AD HOC MANUSCRIPT REVIEWS (RECENT)

The American Naturalist, EcoHealth, Ecology, Ecology Letters, Epidemics, Evolution, Evolution Letters, Functional Ecology, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Theoretical Biology, Oikos, PLoS Computational Biology, PLoS Pathogens, PLoS Neglected Tropical Diseases, PLoS One, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B, Science, Theoretical Population Biology

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| GRANT REVIEWS | The National Science Foundation, The Singapore Government, The Research Council of Norway |
| EXTERNAL PHD EXAMINER | 2003 Deirdre Hollingswoth, University of Cambridge, UK 2019 Reed Hranac, Massey University, New Zealand |
| TRAINING FOR SERVICE | 2020 University System of Georgia Ethics Workshop 2021 Implicit Bias Workshop 2021 Faculty Series: Faculty Search Committee Workshop 2021 Faculty Series: Promotion and Tenure Procedures Workshop 2022 Academic Professional Promotion Guidelines Workshop 2022 Conflict of Interest Workshop 2023 Certificate in Diversity and Inclusion (part 1: diversity at UGA) 2023 Employee Recruitment Training |
| SERVICE WITHIN UGA | 2009-2020 Odum School of Ecology Graduate Committee, UGA 2009-2013 Integrated Life Sciences Executive Committee, UGA 2009-2011 Faculty of Infectious Diseases Executive Committee, UGA 2010 Department of Infectious Diseases 5-year Planning Committee, UGA (ad-hoc) 2011 Faculty delegate, UGA Teaching Symposium. 2011 Coordinator of Enthusiasts of Diversity, Genetics & Evolution seminar series, UGA 2011 Search Committee - Graduate advisor position, Odum School, UGA 2012 Search Committee - Faculty position, Odum School, UGA 2013 Search Committee - Faculty position, Dept. Plant Biology, UGA 2013 Coordinator, Spring seminar series, Dept. Infectious Diseases, UGA 2014 Search Committee chair Faculty position, Odum School and Dept. Infectious Diseases, UGA 2015-2019 Faculty mentor (committee member) to Dr. Murdock, UGA 2015 Post-tenure Review Committee for Prof. Tompkins, Infectious Disease Dept., UGA 2015-2021 IDEAS Admissions Committee, UGA 2015-present IDEAS Steering Committee (& chair since 2021), UGA 2016-2017 Center for Ecology of Infectious Diseases Advisory Board, UGA 2017-2018 Bylaws & Governance Committee, Odum School of Ecology, UGA 2017 Search committee - Lecturer (two positions), Odum School, UGA 2018-present University-wide Data Literacy Committee, UGA (on hiatus) 2018-present Faculty mentor to Takao Sasaki, UGA 2018 Search Committee - Graduate advisor position, Odum School, UGA 2019-2022 Odum School of Ecology IT Committee chair, UGA 2020 Search Committee chair Faculty position, Odum School and College of Veterinary medicine, UGA |

2020 Post-tenure Review Committee for Prof. Ross, Infectious Disease Dept., UGA
2020-present University Council (and Faculty Affairs sub-committee), UGA
2021 Presidential Fellows Selection Committee, UGA
2021-present Director of IDEAS Graduate Training Program, UGA
2021-present Odum School of Ecology Promotion and Tenure Committee, UGA
2021 Search Committee - Faculty position, Odum School, UGA
2022-present Promotion and Tenure Unit Head, Odum School, UGA
2022-present Executive Committee, Odum School, UGA
2022 Search Committee - Tenure track (two positions), Odum School, UGA
2023-present Faculty mentor (committee chair) to Dr. Peach, UGA
2023 Search Committee - Tenure track, Odum School, UGA

UPDATED: JANUARY 5, 2024