John M. Drake

Contact	Odum School of Ecology University of Georgia Athens, GA 30602-2202 USA	Phone: (706) 818-4452 E-mail: jdrake@uga.edu
Appointments	 Regents' Professor, University of Georgia (2022 – present) Odum School of Ecology (2006 – present) Biomedical and Health Sciences Institute (2008 – present) 	nt)
	 Faculty of Infectious Diseases (2008 - present) Center for the Ecology of Infectious Diseases (2016 - pr Institute of Bioinformatics (2024 - present) 	resent)
	Distinguished Research Professor, University of Georgia (201)	7 - 2022)
	Professor, University of Georgia (2016 – 2017)	
	Associate Professor, University of Georgia $\left(2010-2016\right)$	
	Assistant Professor, University of Georgia $(2006 - 2010)$	
	Postdoctoral Fellow, National Center for Ecological Analysis and Synthesis, Santa Barbara, California $(2004-2006)$	
	Adjunct Professor, Bethel College, Mishawaka, Indiana (2003)
VISITING	Oliver Smithies Fellow, Balliol College, Oxford University (2025)	
Appointments	Visiting Research Fellow, Pandemic Sciences Institute & Oxford Martin School, Oxford University (2025)	
	Keeley Visiting Fellow, Wadham College, Oxford University ((Michaelmas term, 2012)
	Leverhulme Visiting Professor, Oxford University (2012)	
Leadership	Founding Director, Global Infectious Disease Intellige versity of Georgia (2020 – 2024)	nce Consortium, Uni-
	The Global Infectious Disease Intelligence Consortium (GIDI research institutions and partners that seeks to help stakehol respond to emerging disease threats before they cause wid Duties of the Director include budget development, fundrais programming. Key activities of GIDIC include periodic and s research advances, ongoing infectious disease outbreaks, an topical roundtables; informational webinars; a biennial symp disease trends; and contracted translational research.	C) is a consortium of Iders prepare for and espread disruptions. sing, operations, and special reports about ad emerging threats; posium on infectious
	Associate Dean for Academic Affairs, Odum School of Ecology, University of Georgia $(2017 - 2021)$	
	The Associate Dean of Academic Affairs oversees the academic activities of approximately 35 faculty, 75 graduate students, and 160 undergraduates in the Odum School of Ecology (OSE). Duties include strategic planning, oversight of curricular programs, faculty recruitment and appointment, budget development and service as OSE's primary liaison with the Office of the Vice President of Instruction and the Office of International Education.	

Founding Director, Center for the Ecology of Infectious Diseases, University of Georgia (2016 - present)

The Center for the Ecology of Infectious Diseases (CEID) is a research unit comprising approximately 100 faculty, postdoctoral associates, student researchers, and staff. The CEID coordinates research activities focused on cross-disciplinary understanding of the biology of infectious diseases at multiple scales with diverse scientific and scholarly methodologies. Duties of the Director include budget development, fundraising, operations, and programming. Key activities of the CEID include facilitating team research, a regular seminar series, design and delivery of workshops and computational clinics, administration of a postdoctoral fellowship program, publication of a book series in collaboration with Oxford University Press, and planning and execution of academic events and symposia.

Founding Director, Population Biology of Infectious Diseases REU Site, University of Georgia (2012 – 2020)

The Population Biology of Infectious Diseases REU Site is an NSF- and NIHfunded nine-week immersive program for undergraduate training in research. The primary goals of the REU program are to promote inclusion, prepare students for graduate school, and train students for research integrating quantitative, datadriven methodology and empirical study. The Director is responsible for securing funding, arranging student housing, selection of student participants, program delivery, collection of data on student outcomes, and reporting to sponsors.

Education	University of Notre Dame, Indiana USA Ph.D., Biological Sciences, May 2004 (Advisor: Dr. David M. Lodge)
	University of Notre Dame, Indiana USA M.A., History and Philosophy of Science, May 2007
	Covenant College, Lookout Mountain, Georgia USA B.A., Biology, May 1999
Administrative Training	University of Georgia Financial Management and Fundraising for Academic Leaders (2024)
	University of Georgia Advanced Leader Program (2023)
	University of Florida SEC Certificate in Multicultural Mentoring (2022)
	Southeastern Conference Academic Leadership Development Program (June 2019 – May 2020)
	University of Georgia, New Department Head Training (2017)
Research Interests	 Population biology: Ecology of infectious diseases • Evolution of host-parasite interactions • Theoretical epidemiology • Extinction • Biological invasions • Allee effects • Critical phenomena • Niche theory • Zoonotic diseases
	Data science: Dynamical modeling • Machine learning • Data mining • Species distribution modeling • Disease risk mapping • Early warning systems
Professional Affiliations	American Association for the Advancement of Science (AAAS), Ecological Society of America (ESA), National Association of Science Writers (NASW), Sigma Xi
Editorial Boards	Ecology & Evolution of Infectious Diseases, Series Editor, Oxford University Press (2017 – present)
	Ecosphere (Associate Editor: $2010 - 2016$)
	Ecology Letters (Associate Editor: 2012 – 2016, Senior Editor 2017 – present)

	Proceedings of the Royal Society, Series B (Associate Editor: 2013 – present) Ecology & Evolution (Associate Editor: 2013 – 2017)
	Theoretical Ecology (Associate Editor: $2015 - 2021$)
	PLOS Biology (Guest Editor: 2018)
	Proceedings of the National Academy of Sciences USA (Guest Editor: 2021)
Institutional Boards	Cary Institute of Ecosystem Studies (2018 – present)
	National Center for Ecological Analysis and Synthesis $(2014 - 2020)$
	Highlands Biological Station (Board of Scientific Advisors, 2008 – present)
	University of Georgia River Basin Center $(2007 - 2021)$
Service to the Discipline	PREZODE/WHO Working Group on Quantitative Indicators of Zoonoses Emergence (2023 – 2024)
	CDC Pathogen Genomics Centers of Excellence (PGCoE) Response Implementation and Situation Awareness Working Group (2023 – present)
	Cary Institute of Ecosystem Studies Diversity, Equity, and Inclusion Committee (2022 – present)
	Cary Institute of Ecosystem Studies Science Advisory Committee (2018 – present)
	NIH-MIDAS Steering Committee (2019 – 2023, Chair: 2019 – 2021)
Symposia Organized	Ecology & Evolution of Influenza Viruses, University of Georgia, Co-organizer (November 18-19, 2024)
	Viral Traits and Infectious Disease Emergence, University of Georgia, Co-organizer (September 9-10, 2024)
	Japanese Encephalitis Virus: Emerging Global Threat to Humans & Livestock, University of Georgia, Organizer (October 17-19, 2022)
	Infectious Disease Intelligence: Analytics For Outbreak Response, AAAS Philadelphia, Pennsylvania, Organizer (February 20, 2022)
	Infectious Disease Forecasting: Modeling & Machine Learning, AAAS Seattle, Washington, Organizer (February 15, 2020)
	Socioepidemiology, Mathematical Biosciences Institute, Ohio State University, Co-chair (March 5-9, 2018)
	Population Biology of Vector-borne Diseases, University of Georgia, Co-organizer (February 24, 2018)
	Allee Effects, Ecological Society of America, Co-organizer (August 11, 2014)
	<i>Ecological Applications of Machine Learning</i> , Ecological Society of America 2011 Annual Conference, Austin, Texas, Co-chair (August 7-12, 2011)
	Pathogens in Heterogeneous Landscapes: Consequences of Environmental Variation for Infectious Disease Dynamics and Control, International Association for Landscape Ecology 2010 Annual Conference, Athens, Georgia, Co-chair (April 8, 2010)
	24 th Annual Midwest Ecology & Evolution Conference, Notre Dame, Indiana, Co-chair (2004)

RESEARCH ARTICLES Filion, A., M. Sundaram, J.P. Schmidt, **J.M. Drake** & P.R. Stephens. Evidence of repeated zoonotic pathogen spillover events at ecological boundaries. *Frontiers in Public Health.* (In press.)

*Indicates undergraduate or high school author

Mathis, S., A.E. Webber, T.M. León, E.L. Murray, M. Sun, L.A. White, L.C. Brooks, A. Green, A.J. Hu, D.J. McDonald, R. Rosenfeld, D. Shemetov, R.J. Tibshirani, S. Kandula, S. Pei, J. Shaman, R. Yaari, T.K. Yamana, P. Agarwal, S. Balusu, G. Gururajan, H. Kamarthi, B.A. Prakash, R. Raman, A.R Rodríguez, Z. Zhao, A. Meiyappan, S. Omar, P. Baccam, H.L. Gurung, S.A. Stage, B.T. Suchoski, M. Ajelli, A.G. Kummer, M. Litvinova, P. C. Ventura, S. Wadsworth, J. Niemi, E. Carcelen, A.L. Hill, S. Jung, J.C. Lemaitre, J. Lessler, S.L. Loo, C.D. McKee, K. Sato, C. Smith, S. Truelove, T. McAndrew, W. Ye, N. Bosse, T. Liptay, G. Dempsey, W.S. Hlavacek, Y.T. Lin, A. Mallela, Y. Chen, S.M. Lamm, J. Lee, R.G. Posner, A.C. Perofsky, C. Viboud, L. Clemente, F. Lu, A.G. Meyer, M. Santillana, M. Chinazzi, J.T. Davis, K. Mu, A. Pastore y Piontti, A. Vespignani, X. Xiong, M. Ben-Nun, P. Riley, J. Turtle, C. Hulme-Lowe, S. Jessa, V.P. Nagraj, S.D. Turner, D. Williams, A. Basu, J.M. Drake, S.J. Fox, G.C. Gibson, E. Suez, E.W. Thommes, M.G. Cojocaru, E.Y. Cramer, A. Gerding, A. Stark, E.L. Ray, N.G. Reich, L. Shandross, N. Wattanachit, Y. Wang, M.W. Zorn, M. Al Aawar, A. Srivastava, L.A. Meyers, S. Woody, A. Adiga, B. Hurt, G. Kaur, B.L. Lewis, M. Marathe, S. Venkatramanan, P. Butler, A. Farabow, N. Muralidhar, N. Ramakrishnan, C. Reed, M. Biggerstaff, R.K. Borchering. Evaluation of FluSight influenza forecasting in 2021-22 and 2022-23 seasons with a new forecasting target: laboratory-confirmed influenza hospitalizations. Nature Communications 15:6289.

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B. Andriamihaja, J. Rakotonirina, E. Rajaonarifara, C.N. Ngonghala, B. Roche & M.H.
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GRANTS & Swine Health Information Center to **J.M. Drake** (\$5,000), 2024-2025. Title: Japanese Encephalitis Virus Information Sharing Network Website. Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$298,354), 2024-2026. Title: OPUS: Synthesizing theory and data in the ecology of zoonotic diseases: A multi-system perspective. Role: Principal investigator.

University of Georgia Office of Instruction to **J.M. Drake**, S. Carver, M. Cacciatore & O. Ginn. (\$20,000), 2024-2025. Title: Perception and preparedness: A multidisciplinary inquiry-based longitudinal study of healthcare seeking behaviors before, during and after a pandemic. Role: Principal investigator.

Bill & Melinda Gates Foundation to A. Winter, **J.M. Drake**, & M. Ferrari (\$548,838), 2023-2025. Title: Assessing global measles outbreak risk via classification methods. Role: Co-investigator.

Total amount awarded to Drake: \$13,539,035

Total collaborative funding: \$137,918,034 Swine Health Information Center to **J.M. Drake** (\$10,000), 2023-2024. Title: Japanese Encephalitis Virus Information Sharing Network Website. Role: Principal investigator.

Kansas State University to **J.M. Drake** (\$371,550), 2023-2026. Developing a Japanese Encephalitis Virus (JEV) Spatial Interaction Model. Role: Principal investigator.

Swine Health Information Center to **J.M. Drake** (\$5,000), 2022-2023. Title: Japanese Encephalitis Virus Information Sharing Network Website. Role: Principal investigator.

US Centers for Disease Control to J. Bahl, M.S. Alabady, M.A. Anderson, **J.M. Drake**, K.G. Emerson, T.C. Glenn, E.K. Lipp, L. Liu, P. Rohani, S. Sanchez & A. Winter (\$18,383,130), 2022-2027. Title: CAPE - Center for Applied Pathogen Epidemiology. CDC 00000000031828. Role: Co-investigator.

National Science Foundation to **J.M. Drake**, P. Rohani, G. Nowak, B. Epureanu & B. Han (\$1,000,000), 2022-2024. Title: PIPP Phase I: Heterogeneous model integration for infectious disease intelligence. NSF DEB-2200158. Role: Principal investigator.

Swine Health Information Center to **J.M. Drake** (\$40,000), 2021-2022. Title: Pathogenic bacterial modeling. Role: Principal investigator.

Centers for Disease Control and Prevention to J. Bahl, P. Rohani, A. de Groot & J.M. **Drake** (\$732,271), 2021-2023. Title: A genomics-based system to predict the seasonal influenza virus evolution and epidemic dominance. Role: Co-investigator.

National Institutes of Health to K. Dahlin & **J.M. Drake** (\$9,939), 2021-2022. Title: Evaluating responses to COVID-19 transmission on university campuses. Role: Co-investigator.

National Institutes of Health to S.M. Tompkins, P. Rohani, A.W. Park, J. Kissinger, A. Handel, J. Bahl & **J.M. Drake** (\$91,775,618), 2020-2024. Title: Center for Influenza Disease and Emergence Research (CIDER). Role: Senior personnel.

Centers for Disease Control and Prevention to J. Bahl, P. Rohani, L. Moise, A. de Groot & **J.M. Drake** (\$732,271), 2019-2021. Title: A genomics-based system to predict seasonal influenza virus evolution and epidemic dominance. 75D30121C11990. Role: Co-investigator.

University of Georgia Teaming for Interdisciplinary Research Pre-Seed Program to **J.M. Drake**, K. Gandhi, M. Welch-Devine, B. Bledsoe, M. Shepherd, L. Seymour, & E. Marty (\$3,500), 2020-2021. Title: Disasters colliding: The epidemiology of severe weather events. Role: Principal investigator.

National Science Foundation to **J.M. Drake**. (\$199,917), 2020-2022. Title: RAPID: Dynamical modeling of COVID-19. NSF DEB-2027786. Role: Principal investigator.

National Science Foundation to A. Kramer & **J.M. Drake**. (\$200,000), 2020-2022. Title: RAPID Collaborative proposal: Spatial dynamics of COVID-19 NSF DEB-2028136. Role: Principal investigator.

National Institutes of Health to P.R. Stephens, **J.M. Drake**, S. Ferreira, N.L. Gottdenker, & J.P. Schmidt (\$2,468,355), 2020-2025. Title: Spillover of Ebola and other filoviruses at ecological boundaries. NIH-NIAID R01AI156866. Role: Co-investigator.

Centers for Disease Control and Prevention to J. Bahl, P. Rohani & J.M. Drake (\$659,708), 2019-2021. Title: Integrated system to forecast dominant influenza virus in seasonal epidemics. 75D30119C06826. Role: Co-investigator.

National Science Foundation to **J.M. Drake**, N.L. Gottdenker, J.P. Schmidt & S. Tanner (\$1,599,933), 2019-2023. Title: CNH2-L: Social and ecological determinants of multi-host vector-borne infections in dynamic tropical landscapes. Role: Principal investigator.

National Science Foundation to A. Roess and S. Lahm (\$2,487,071; sub-award to Drake: \$330,199), 2018-2022. Title: Ecology of MERS-CoV in Camels, Humans, and Wildlife in Ethiopia. DEB-1816064. Role: Co-investigator.

National Endowment for the Humanities to C. Saunt, S. Bernardes & J.M. Drake (\$278,363, Drake portion: \$7,509), 2018-2023. Title: Mapping the people of early America. NEH. Role: Co-investigator.

National Science Foundation to B.A. Han, S.M. O'Regan & J.M. Drake (\$2,478,884; sub-award to Drake: \$1,099,576), 2017-2025. Title: Global patterns, predictors, and their dynamical consequences in zoonotic diseases of mammals. DEB-1717282. Role: Co-investigator.

University of Georgia President's Interdisciplinary Seed Grant Initiative to **J.M. Drake**, S. Ferreira, & N. Gottdenker (\$109,746), 2017-2019. Title: Mapping the global risk of emerging infectious disease threats. Role: Principal investigator.

National Science Foundation to **J.M. Drake** & M. Strand (\$572,256), 2017-2021. Title: REU Site: Population Biology of Infectious Diseases. DBI-1659683. Role: Principal investigator.

National Science Foundation to V.O. Ezenwa, D. Krause & **J.M. Drake** (\$2,997,107), 2015-2020. Title: NRT-DESE: Interdisciplinary Disease Ecology Across Scales: from byte to benchtop to biosphere. DGE-1545433. Role: Co-investigator.

National Science Foundation to A.M. Kramer & **J.M. Drake** (\$308,244), 2015-2017. Title: Multi-scale dynamics of White-Nose syndrome in North America. EF-1442417. Role: Co-investigator.

National Institutes of Health to **J.M. Drake**, B. Epureanu, M. Ferrari, A. Park, & P. Rohani (\$3,178,076), 2014-2019. Title: Forecasting tipping points in emerging and re-emerging infectious diseases.

National Institutes of Health to E. Halloran et al. (Drake component: \$180,705), 2014-2019. Title: Center for Statistics and Quantitative Infectious Diseases. Role: Principal investigator.

National Institutes of Health to J. Moore et al. (\$1,587,982), 2014-2017. Title: Post-Baccalaureate training in infectious disease research. Role: Senior personnel.

National Atmospheric and Oceanic Administration to D.M. Lodge, **J.M. Drake**, et al. (Drake component: \$90,078), 2014-2015. Title: Forecasting spread and bioeconomic impacts of aquatic invasive species from multiple pathways to improve management and policy. Role: Principal investigator.

Highlands Biological Station to **J.M. Drake** (\$400) Title: Exploratory study of the inquiline community of *Sarracenia purpurea* in the vicinity of Highlands, NC. Role: Principal investigator.

University of Georgia, President's Venture Fund to **J.M. Drake** (\$3,500) Title: Mobile games for public environmental education. Role: Principal investigator.

National Science Foundation to **J.M. Drake** and M. Strand (\$283,500 + Supplement \$43,350), 2012-2016. Title: REU Site: Population Biology of Infectious Diseases. DBI-1156707. Role: Principal investigator.

National Atmospheric and Oceanic Administration to D.M. Lodge, **J.M. Drake**, et al. (Drake component: \$345,057), 2010-2013. Title: Forecasting spread and bioeconomic impacts of aquatic invasive species from multiple pathways to improve management and policy. Role: Co-investigator.

National Science Foundation to F. Dobbs, J. Ward, J. Niejako, R. Hicks, T. Holst and **J.M. Drake** (Drake component \$451,706), 2009-2013. Title: Collaborative Research - Microscopic islands: modeling the theory of island biogeography for aquatic pathogens colonizing marine aggregates. EF-0914347. Role: Co-investigator.

National Science Foundation to P. Rohani, D. Stallknecht, & **J.M. Drake** (\$489,202), 2009-2012. Title: Population ecology of avian influenza viruses. DEB-0917853. Role: Principal investigator.

James S. McDonnell Foundation to **J.M. Drake** & P. Rohani. (\$449,527), 2008-2013. Title: Evolutionary epidemiology of multi-transmission pathogens in multi-host networks. Role: Principal investigator.

US Department of Agriculture to **J.M. Drake** (\$174,337), 2008-2010. Title: Costsensitive machine learning algorithms for invasive species decision support, risk analysis, and policy. Cooperative Agreement No. 58-7000-8-0111. Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$578,619), 2007-2010. Title: Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). EF-0723601. Role: Principal investigator.

Great Lakes Protection Fund to D.M. Lodge, J. Feder, H.-C. Chang, M. Ozkan, J.M. Drake, and J.A. Andersen (\$1,090,000, Drake component \$195,341), 2006-2009. Title: Risk Assessment and Management of Great Lakes Invasive Species. Role: Coinvestigator.

Department of Natural Resources to J.P. Schmidt, **J.M. Drake** and R. Carroll. (\$23,831). Title: Economic analyses for ecosystem services and climate change adaptation. Role: Co-investigator.

National Science Foundation to **J.M. Drake** (\$19,222). Title: Collaborative research – Microscopic Islands: Modeling the Theory of Island Biogeography for Aquatic Pathogens Colonizing Marine Aggregates. ("Research Opportunity Award" to support collaboration with students and faculty at Bethel College, Indiana, a primarily undergraduate institution). Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$19,162), Spring 2012. Title: Collaborative research – Microscopic Islands: Modeling the Theory of Island Biogeography for Aquatic Pathogens Colonizing Marine Aggregates. ("Research Opportunity Award" to support collaboration with students and faculty at Bethel College, Indiana, a primarily undergraduate institution). Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$32,357), Spring 2011. Title: Collaborative research – Microscopic Islands: Modeling the Theory of Island Biogeography for Aquatic Pathogens Colonizing Marine Aggregates. ("Research Opportunity Award" to support collaboration with students and faculty at Bethel College, Indiana, a primarily undergraduate institution). Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$14,250), Spring 2010. Title: Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). (Supplement to provide research opportunities for undergraduates). Role: Principal investigator.

University of Georgia, President's Venture Fund to **J.M. Drake** (\$2,295) Title: Support for a visiting scientist, Elodie Vercken. Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$10,650), Spring 2009. Title: Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). (Supplement to provide research opportunities for undergraduates). Role: Principal investigator.

National Center for Ecological Analysis and Synthesis to **J.M. Drake** & W. Langford (\$16,900), June 2008. Title: Machine Learning for the Environment (Supplement). Role: Principal investigator.

University of Georgia, President's Venture Fund to **J.M. Drake** (\$1,500) Title: Support to provide research experience for teachers. Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$72,147), Summer 2008. Title: Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). (Supplement to perform a study of mosquito feeding preferences) EF-0824507. Role: Principal investigator.

National Science Foundation to **J.M. Drake** (\$7,000), Spring 2008. Title: Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). (Supplement to provide research opportunities for undergraduates). Role: Principal investigator.

University of Georgia Research Foundation, Inc. to **J.M. Drake** (\$7,010), 2008-2009. Title: Extinction in deteriorating environments. Role: Principal investigator.

University of Georgia Research Foundation, Inc. to **J.M. Drake** (\$7,000), 2007. Title: *Daphnia* longevity in fluctuating environments. Role: Principal investigator.

National Center for Ecological Analysis and Synthesis to **J.M. Drake** & W. Langford (\$97,850), 2006-2008. Title: Machine Learning for the Environment. Role: Coinvestigator.

US Department of Agriculture to T. Knight, J. Chase, K. McCue, & J.M. Drake (\$190,069, Drake component \$0), 2005-2006. Title: Population dynamics of density dependent garlic mustard populations. Role: Co-investigator.

NSF Doctoral Dissertation Improvement Grant to **J.M. Drake** (\$11,986), Summer 2003 (DEB-0308934). Title: Invasion Risk in the Great Lakes: Estimating Propagule Pressure with Molecular Tools. Role: Principal investigator.

JumpStart Grant (University of Notre Dame) to **J.M. Drake** and Jennifer L. Tank (\$1000), Spring 2001 for integrating technology and classroom instruction: General Ecology. Role: Principal investigator.

Illinois-Indiana Sea Grant College Program Graduate Fellowship to **J.M. Drake** (\$6000), 2001-2002. Title: How many animals does it take to cause an invasion? Predicting future invaders and deriving standards for ballast water from theoretical models of Allee effects. Role: Principal investigator.

EPA Graduate STAR Research Fellowship to **J.M. Drake** (\$102,000), 2001-2004. Title: Predicting the identity and probability of establishment for potential aquatic invaders of the North American Great Lakes: a risk assessment. Role: Principal investigator.

Technical	Forna, A., L. Damodaran, C. Gunning, N. Kannan, J. Bahl, P. Rohani & J.M. Drake .	*Indicates
Presentations &	From sequences to predictions: FluEmbed reveals antigenic evolution in influenza A	undergraduate
Published	virus using protein language modeling. <i>Ecology & Evolution of Infectious Diseases</i> .	or high school
Abstracts	University of Georgia, Athens, GA. November 18-19, 2024. (Poster)	author
	Forna, A., A. Sbarra, S. Takahashi, M.J. Ferrari, J.M. Drake & A. Winter. Machine learning to predict country-specific measles outbreaks. Precision One Health Sympo- sium. University of Georgia, Athens, GA. November 7, 2024. (Poster) Rohani, P., V. Felix, & J.M. Drake . Forecasting influenza with ensembles of seasonal	

Rohani, P., V. Felix, & J.M. Drake. Forecasting influenza with ensembles of seasonal models. Options XII for the Control of Influenza. Brisbane, Australia. September 29 – October 2, 2024. (Presentation)

Drake, J.M., A. Ali, M. Atia, C. Ayele, L. Carruth, M. Dejene, S. Lahm, S. Melaku, M. Mann, M. Mueller, A. Roess, S. Thapa, J. Wildemann. Risk factors for the emergence of MERS-CoV in the camel economy of Ethiopia. Ecological Society of America. Long Beach, California. August 4-9, 2024. (Poster)

Drake, J.M., V. Felix & P. Rohani. Forecasting influenza with ensembles of seasonal models. Ecology & Evolution of Infectious Diseases. Stanford University. June 24-27, 2024. (Poster)

Robertson, H., E. Graeden, A. Castellanos, D. Rosado, **J.M. Drake** & B.A. Han. Understanding ecological systems using knowledge graphs. Global Health Security 2024. Sydney, Australia. June 18-21, 2024. (Presentation)

Willoughby, A.R., S.M. Altizer & **J.M. Drake**. National park buildings modify species interactions of ringtails (*Bassariscus astutus*) across the food web. American Society of Mammalogists. Boulder, Colorado. June 7-11, 2024.

Drake, J.M., É. Marty, L. Seymour, A. Daws, K.J.K. Gandhi, M. Welch-Devine, B. Bledsoe, M. Shepherd, C.C. Fortuin & C. Montes. Social vulnerability and prior exposure to environmental disasters affect COVID-19 health outcomes. EPIDEMICS 9. November 28, 2023. (Poster)

Robertson, H., E. Graeden, A. Castellanos, D. Rosado, P. Das, **Drake, J.M.** & B. Han. Knowledge graphs for scalable data integration: A case study of Highly Pathogenic Avian Influenza (HPAI). MIDAS. Atlanta, Georgia. October 29-31, 2023. (Poster)

Kelly, S., A. Ghadami, **Drake, J.M.** & B. Epureanu. Unveiling key factors in disease transmission through explainable AI. MIDAS. Atlanta, Georgia. October 29-31, 2023. (Poster)

Drake, **J.M.** & P. Rohani. Forecasting influenza with ensembles of linear models. MIDAS. Atlanta, Georgia. October 29-31, 2023. (Poster)

Sarkar, S., P. Rohani & **Drake**, **J.M.** Theory of behavior-induced tipping points in the transmission of infectious diseases. MIDAS. Atlanta, Georgia. October 29-31, 2023. (Poster)

Drake, **J.M.** Spatial interaction models for the spread of emerging diseases. Ecological Society of America. August 7, 2023. (Poster)

Torres, P. J.M. Drake. Defining and mapping emerging and re-emerging infectious diseases. 71st Annual International Conference of the Wildlife Disease Association. Athens, Georgia. July 29 - August 4, 2023. (Presentation)

Willoughby, A., **J.M. Drake** & S. Altizer. Tourist-provided resources modify small mammal diet, infection, and behavior in a National Park. 71st Annual International Conference of the Wildlife Disease Association. Athens, Georgia. July 29 - August 4, 2023. (Presentation)

Stephens, P.R., ... & **J.M. Drake**. Frugivory, *Ficus* distribution, and *Ebolavirus* spillover in Sub-Saharan Africa. Evolution. Albuquerque, New Mexico. June 21-25, 2023. (Presentation)

Smith, J., C.J. Miciano, J. Taube^{*}, P. Miller, A. Hill, S. Shrestha & **J.M. Drake**. Characterizing and comparing individual-level heterogeneity in transmission of infectious disease outbreaks. Society for Epidemiologic Research, Portland, Oregon. June 14-16, 2023. (Presentation)

Drake, J.M., É. Marty, L. Seymour, A. Daws, K.J.K. Gandhi, M. Welch-Devine, B. Bledsoe, M. Shepherd, C.C. Fortuin & C. Montes. Interacting natural disasters: extreme weather & epidemics. Ecology & Evolution of Infectious Diseases. University Park, Pennsylvania. May 22-25, 2023. (Poster)

Forna, A., J. Bahl, J.M. Drake & P. Rohani. From sequences to surprises: NIAViD

(Novel Influenza A Virus Detector) reveals antigenic transitions in Influenza A virus. Ecology & Evolution of Infectious Diseases. University Park, Pennsylvania. May 22-25, 2023. (Poster)

Drake, J.M. Heterogeneous model integration for infectious disease intelligence. National Science Foundation, Predictive Intelligence for Preventing Pandemics (PIPP) Kickoff Meeting. November 8, 2022. (Presentation)

Drake, **J.M.** Path to a spread model for JEV in North America. Special symposium: Japanese Encephalitis Virus: Emerging global threat to humans & livestock. University of Georgia. October 18, 2022. (Presentation)

Sundaram, M., B. Han, J.P. Schmidt, **J.M. Drake** & P. Stephens. Traits, phylogeny and host cell receptors predict Ebolavirus host status among African mammals. Evolution 2022. June 24-28, 2022. (Presentation)

Willoughby, A.R., S. M. Altizer & **J.M. Drake**. Tourist-provided resources modify rock squirrel (*Otospermophilus variegatus*) behavior, diet, and parasite communities. American Society of Mammalogy. June 20, 2022. (Poster)

Vinson, J.E., N.L. Gottdenker, L.F. Chaves, **J.M. Drake** & R.J. Hall. Land-use and host density impacts on parasite transmission. Ecology & Evolution of Infectious Diseases, Atlanta, Georgia, June 3-9, 2022. (Poster)

Willoughby, A.R., S. M. Altizer & **J.M. Drake**. Tourist-provided resources modify rock squirrel (*Otospermophilus variegatus*) behavior, diet, and parasite communities. Ecology & Evolution of Infectious Diseases, Atlanta, Georgia, June 3-9, 2022. (Poster)

Dahlin, K., **J.M. Drake**, B. Han & S.M. O'Regan. Exploring the role of host traits on the transmission of mosquito-borne pathogens in wildlife populations. Virtual Joint Mathematics Meetings. April 7, 2022. (Presentation)

Drake, J.M. Infectious disease intelligence: The science of predicting pandemics. ORAU 2022. Annual Meeting of the Oak Ridge Associated Universities Council of Sponsoring Institutions. March 7, 2022. (Invited presentation)

O'Sullivan, T., A.M. Kramer, R. Merrill, S.M. O'Regan, E. McIntyre, D. Ndungi & **Drake**, **J.M.** Modeling the 2018-2020 Ebola outbreak: Insights into determinants of geographic spread. EPIDEMICS-8. December 1, 2021. (Presentation)

Drake, **J.M.**, A. Handel, A. Tredennick, E.B. O'Dea & E. Marty. Forecasting and scenario analysis of SARS-CoV-2 transmission with a semiparametric model. EPIDEMICS-8. November 30, 2021. (Poster)

Dablander, F., H. Heesterbeek, D. Borsboom & **J.M. Drake**. Overlapping Time Scales Obscure Early Warning Signals of the Second COVID-19 Wave. Interacting Tipping Elements in the Natural and Social Components of the Earth System Workshop, Bad Belzig, Germany, August, 2021. (Poster)

Dablander, F., H. Heesterbeek, D. Borsboom & **J.M. Drake**. Overlapping Time Scales Obscure Early Warning Signals of the Second COVID-19 Wave. Ignite Talk at the Interacting Tipping Elements in the Natural and Social Components of the Earth System Workshop, Bad Belzig, Germany, August, 2021. (Presentation)

Drake, J.M., A. Handel, A. Tredennick, E.B. O'Dea & E. Marty. Forecasting and scenario analysis of SARS-CoV-2 transmission with a semiparametric model. SIAM Conference on Applications of Dynamical Systems (DS21). May 27, 2021. (Invited presentation)

Ghadami, A., G. Li, **J.M. Drake**, P. Rohani & B. Epureanu. Feedback between Covid-19 dynamics and supply chain disruptions affects outbreak outcomes. May 11, 2021. (Presentation)

*Taube, J.C., P. Miller & J.M. Drake. An open-access database of infectious disease

transmission trees to explore superspreader epidemiology. MIDAS Annual Conference. May 12, 2021. (Poster)

Drake, J.M., A. Handel, E.B. O'Dea & E. Marty. Forecasting and scenario analysis of SARS-CoV-2 transmission with a semiparametric model. MIDAS Annual Conference. May 13, 2021. (Presentation)

Kramer, A.M. & **J.M. Drake**. Multi-scale dynamics of white-nose syndrome in North America. NSF Macrosystems PI Meeting. January 13-14, 2021. (Presentation)

Drake, J.M., T.S. Brett, B.I. Epureanu, M.J. Ferrari, É. Marty, P.B. Miller, E.B. O'Dea, A.W. Park & P. Rohani. Dynamics of epidemic transitions. EPIDEMICS 2019, Charleston, South Carolina. December 3, 2019. (Poster)

*Taube, J.C., P.B. Miller & **J.M. Drake**. Who infected whom? Creating a database of transmission trees for comparative outbreak analysis. EPIDEMICS 2019, Charleston, South Carolina. December 3, 2019. (Poster)

Drake, J.M. Analytics for anticipating and responding to infectious disease outbreaks. *Pandemic Prediction and Forecasting Science & Technology Working Group.* September 10, 2019. (Invited presentation)

Drake, J.M. Analytics for anticipating and responding to infectious disease outbreaks. 2019 Global Health Summit – One Health in Action. American Veterinary Medical Association Convention, Washington D.C. August 5, 2019. (Invited presentation)

Drake, **J.M.** AEROnaut: software for data-driven interactive analysis of epidemic transitions. 2019 MIDAS Network Meeting. May 21, 2019. (Presentation)

Bock, S., R. Lowers, T. Rainwater, P. Wilkinson, E. Stolen, S. Weiss, J.M. Drake & B. Parrott. Ecological drivers of nest temperature variation in the American alligator: predicting the impact of future climatic scenarios. Oral Presentation. Palmetto Alligator Research and Management Symposium. April 19, 2019. (Presentation)

Han, B.A., S.P. Maher, **J.M. Drake** & J.P. Schmidt. Optimizing surveillance for Ebola virus spillover across space, seasons, and species. American Geophysical Union. December 10, 2018. (Presentation)

Miller, P.B., *K. Houck, C.C. Whalen &J.M. Drake. Modeling age-targeted interventions for tuberculosis in India. National Science Foundation National Research Traineeship annual meeting, Washington D.C. September 2018. (Poster)

Richards, R.L., E.A. Archie, **J.M. Drake** & V.O. Ezenwa. Spatial structure in disease transmission across a community: Using species distribution models to map wildlife disease. ESA Annual Conference, New Orleans, Louisiana. August 8, 2018. (Presentation)

Kramer, A.M. & **J.M. Drake**. Visualization for communication throughout dataintensive research projects. ESA Annual Conference, New Orleans, Louisiana. August 8, 2018. (Invited presentation)

Kaul, R.B., M.V. Evans, C. Murdock & **J.M. Drake**. Spatiotemporal spillover risk of yellow fever in Brazil. General methods for anticipating tipping points in complex systems. ESA Annual Conference, New Orleans, Louisiana. August 7, 2018. (Presentation)

Drake, J.M., P. Rohani, A.W. Park, E.B. O'Dea, E. Marty, P. Miller, T.S. Brett, S. Hall. General methods for anticipating tipping points in complex systems. ESA Annual Conference, New Orleans, Louisiana. August 7, 2018. (Invited presentation)

*Krishnaswamy, A. & **J.M. Drake**. Outbreak spreading: Using gradient boosting machines to predict the chance an incipient outbreak will spread. University of Georgia Center for Undergraduate Research Opportunities Symposium. April 9, 2018. (Presentation) *Harris, M. & **J.M. Drake**. Spatial early warning signals of malaria elimination in Haiti. University of Georgia Center for Undergraduate Research Opportunities Symposium. April 9, 2018. (Presentation)

E.B. O'Dea, T.S. Brett, **J.M. Drake**, A.W. Park, E. Marty, P. Miller, P. Rohani. Pros and cons of slowing-down based indicators of infectious disease emergence and eradication. MIDAS Network Meeting. Bethesda, Maryland. April 4, 2018.

Chen, S., E.B. O'Dea, **J.M. Drake** & B.I. Epureanu. Eigenvalues of the covariance matrix as early warning signals for critical transitions in epidemiological systems. 2018 MIDAS Network Meeting. April 4, 2018. (Poster)

E.B. O'Dea & **J.M. Drake**. Disentangling reporting and disease transmission using second order statistics. SIAM Southeastern Atlantic Sectional Conference. March 11, 2018. (Presentation)

J.M. Drake. Behavior, learning & containment of disease outbreaks. Socioepidemiology Workshop. Mathematical Biosciences Institute, Ohio State University. March 7, 2018. (Presentation)

A.W. Park, **J.M. Drake**, J.E. Vinson, & P. Rohani. Behavior and Ebola: Coupling spatial scales and transmission pathways. Socioepidemiology Workshop. Mathematical Biosciences Institute, Ohio State University. March 8, 2018. (Presentation)

J.M. Drake, J.P. Schmidt, A.W. Park, A.M. Kramer, B. Han, & L. Alexander. Dynamic risk mapping of zoonotic spillover. EPIDEMICS 6. November 30, 2017. Sitges, Spain. (Poster)

Kramer, A.M., C. Teitelbaum, A.P. Griffin, & **J.M. Drake**. Linking within- and between-cave scales to understand population dynamics of bats infected by White-nose syndrome. Ecological Society of America. August 11, 2017. (Poster)

Kaul, R.B., G. Righi, & **J.M. Drake**. Noise-induced catastrophic change in ecology. Ecological Society of America. August 10, 2017. (Presentation)

Drake, J.M., J.P. Schmidt, A.W. Park, A.M. Kramer, B. Han & L. Alexander. Early warning systems for spillover of zoonotic pathogens. Ecological Society of America. August 9, 2017. (Presentation)

Park, A.W., M.J. Farrell, J.P. Schmidt, S. Huang, T. Dallas, P. Pappalardo, J.M. Drake, P.R. Stephens, R. Poulin, C.L. Nunn, & T.J. Davies. Characterizing parasite generalism illuminates patterns of host-parasite associations. Ecological Society of America. August 7, 2017. (Presentation)

Harris, M. & **J.M. Drake**. Evidence of critical slowing down prior to malaria resurgence in Kericho, Kenya. National Conference on Undergraduate Research. April 6, 2017. (Presentation)

Drake, J.M. Spatial spread of the West Africa Ebola epidemic at two scales. Eastern North American Region International Biometric Society Spring Meeting. March 14, 2017. (Invited presentation)

Schatz, A. & **J.M. Drake**. Ecological applications of informatics. Georgia Informatics Symposium. October 11, 2016. (Poster)

Kramer, A.M. & **J.M. Drake**. Multi-scale dynamics of white-nose syndrome in North America. NSF Macrosystems PI meeting, Washington D.C. September 29, 2016. (Poster)

Han, B., **J.M. Drake**, & J.L. Gittleman. Behavioral predictors of zoonotic disease diversity in the Carnivora. Ecological Society of America. August 10, 2016. (Presentation)

Bowden, S.E. & **J.M. Drake**. Larval competition modifies the thermal niche of vector mosquitoes. Ecological Society of America. August 8, 2016. (Presentation)

Miller, P.B. & J.M. Drake. Early warning signals for detection of emerging infectious diseases in the presence of seasonality and varying rates of emergence. MIDAS Conference, Reston, VA, 23 May 2016. (Poster)

O'Dea, E.B. & **J.M. Drake**. Estimating the distance to the epidemic threshold. MIDAS Conference, Reston, VA, 23 May 2016. (Poster)

R. Kaul, S.E. Bowden, L Wachsmuth, E. Dolan & **J.M. Drake**. Population Biology of Infectious Diseases REU Site: Math Majors at the Bench. Ecological Society of America. August 14, 2015. (Poster)

J.E. Byers, P. Pappalardo, J.P. Schmidt, P.R. Stephens, S. Haas, C. Nunn, **J.M. Drake**, & T. Dallas. What parasite and host traits best explain the geographic range of mammal parasites and diseases? Ecological Society of America, August 11, 2015. (Presentation)

A.M. Kramer, M. Wittman, G. Annis, W.L. Chadderton, E. Rutherford, L. Mason, D.M. Lodge, & **J.M. Drake**. Predicting habitat suitability for invasive species in the Great Lakes: Combining species distribution models and high resolution aquatic variables. Ecological Society of America, August 13, 2015. (Poster)

B. Han, J.P. Schmidt, D.T.S. Hayman, S.E. Bowden, & **J.M. Drake**. Machine learning to predict new bat reservoirs of filoviruses: Africa and beyond. Ecological Society of America, August 11, 2015. (Presentation)

S. Huang, **J.M. Drake**, J.L. Gittleman, & S. Altizer. Parasite diversity and host evolution: A global analysis of carnivores. Ecological Society of America, August 11, 2015. (Presentation)

L. Berec, A.M. Kramer, **J.M. Drake**, & V. Bernhauerova. Natural selection on matefinding Allee effects. Ecological Society of America, August 11, 2015. (Presentation)

J.P. Schmidt, A.W. Park, **J.M. Drake**, & L. Alexander. Identifying triggers of Ebola spillover events using spatio-temporal envelope models. Ecological Society of America, August 11, 2015. (Presentation)

T. Dallas & J.M. Drake. Using niche modeling to detect unobserved interactions in host-parasite networks. Ecological Society of America, August 22, 2015 (Presentation).

Drake, **J.M.** Plausible parameterization: An approach to fitting weakly identifiable dynamical models. Ecological Society of America. August 13, 2015. (Presentation)

Kramer, A.M. & **Drake**, **J.M.** Multi-scale dynamics of white-nose syndrome in North America. NSF Macrosystems Program, PI meeting. August 4, 2015. (Poster)

Drake, J.M., A. Kramer, L. Alexander, J.T. Pulliam, & A.W. Park. Spatial spread of the West Africa Ebola epidemic at two scales. Society for Mathematical Biology Annual Meeting, July 2, 2015. (Invited presentation)

Drake, J.M., R. Kaul, L. Alexander, S.M. O'Regan, A. Kramer, J.T. Pulliam, M. Ferrari, & A.W. Park. Ebola cases and health system demand in Liberia. John M. Drake. Society for Mathematical Biology Annual Meeting, June 30, 2015. (Invited presentation)

Sean Maher, A.M. Kramer, J.T. Pulliam, K.E. Langwin, A.M. Kilpatrick, W.F. Frick, & **J.M. Drake**. Visiting an old friend: Using recent data to revise expectations of White-nose syndrome spread. American Society of Mammologists. June 2015, Jacksonville. (Presentation)

Kaul, R., A. Smith, **J.M. Drake**. Development of deterministic and stochastic models for a T7 phage-E. coli system with vaccination strategy implementation. 13th Ecology and Evolution of Infectious Diseases Annual Conference. May 28, 2015, Athens, Georgia. (Poster)

Drake, J.M. Ebola cases and health system demand in Liberia. 13th annual confer-

ence on Ecology & Evolution of Infectious Diseases (EEID). May 29, 2015. (Keynote Presentation)

Drake, J.M. Early warning signals of dynamic bifurcation in the emergence of monkeypox virus. Modeling Infectious Disease Agents Study (MIDAS) Network Meeting. April 28-30, 2015, Atlanta. (Presentation)

*Miller, P & J.M. Drake. 2015. Using the power ratio as an early warning signal to detect critical transitions for disease emergence and eradication. Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics. February 19-21, 2015, Washington D.C. (Presentation)

*Humphrey, T., T. Dallas, & J.M. Drake. 2015. Effects of pH and temperature variability on pathogen development and population survival in *Daphnia*. Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics. February 19-21, 2015, Washington D.C. (Presentation)

Drake, J.M. Knowledge integration for the environmental sciences. University of Georgia second annual Sustainable Science Symposium. January 23, 2015. (Presentation)

Meyer, N.J., E.B. Laber, K. Pacifici, B.J. Reich, & **J.M. Drake**. An adaptive control strategy for the West Africa Ebola outbreak. Modeling the Spread and Control of Ebola in West Africa – A Rapid Response Workshop. Atlanta, Georiga. January 22, 2015. (Poster)

Meyer, N.J., E.B. Laber, K. Pacifici, B. Reich, & **J.M. Drake**. Adaptive Management Strategies for White-Nose Syndrome. NIPS-14 Workshop: *From Bad Models to Good Policies*. (Poster)

*Gray, D. & **Drake, J.M.** 2014. Quantifying the performance of spatial and temporal early warning signals of disease elimination. American Biomedical Research Conference for Minority Students. November 12-15, 2014, San Antonio, TX.

Xu, J., T.L. Wickramarathne, R.P. Keller, **J.M. Drake**, D.M. Lodge, E. Grey, N.V. Chawla & K. Steinhaeuser. Improving management of aquatic invasions by integrating shipping network, ecological, and environmental data: Data mining for social good. ACM SIGKDD, New York. August 24-27, 2014. (Presentation)

*Patel, D., A.M. Kramer, & **J.M. Drake**. Predicting future spread suring an outbreak using species distribution models. Ecological Society of America Annual Meeting. Sacramento, California. August 15, 2014. (Poster)

*Righi, G., & **J.M. Drake**. Developing a model for a natural noise-induced phase transition in *Aphanizomenon flos-aquae*. Ecological Society of America Annual Meeting. Sacramento, California. August 14, 2014. (Poster)

Drake, J.M., W. Bajwa, S.E. Bowden, & K. Magori. Variation in outbreak size during the transition to endemicity: West Nile virus in New York City. Ecological Society of America Annual Meeting. Sacramento, California. August 12, 2014. (Presentation)

Barnum, T., J.T. Wootton, R.J. Bixby, **J.M. Drake**, J.C. Colon-Gaud, D. Stoker, A. Rugenski, T. Frauendorf, S.J. Connelly, S.S. Kilham, M.R. Whiles, K. Lips. Explaining why grazing mayflies do not functionally compensate for the top-down control of algal communities following disease-driven tadpole declines in a Neotropical stra. Ecological Society of America Annual Meeting. Sacramento, California. August 11, 2014. (Presentation)

Kaul, R.B., A.M. Kramer, F.C. Dobbs, & **J.M. Drake**. Allee effects: Scaling down to the microbial level. Ecological Society of America Annual Meeting. Sacramento, California. August 11, 2014. (Presentation)

Dallas, T., J.M. Drake, & M. Krkosek. Thresholds to pathogen invasion: theory +

experiment. Ecological Society of America Annual Meeting. Sacramento, California. August 11, 2014. (Presentation)

Bowden, S.E., & **J.M. Drake**. Effects of density dependence and competition on development of larval mosquitoes. Ecological Society of America Annual Meeting, Sacramento, California. August 12, 2014. (Presentation)

Han, B.A., S.E. Bowden, J.P. Schmidt, & **J.M. Drake**. Predicting bat reservoirs of future zoonotic diseases. Ecological Society of America Annual Meeting, Sacramento, California. August 2014. (Presentation)

Dallas, T. & **J.M. Drake**. Costs of resistance and infection in *Daphnia* species exposed to a generalist microparasite. Ecology and Evolution of Infectious Disease Conference. Fort Collins, Colorado. June 3-4, 2014. (Presentation)

Kramer, A.M., G. Annis, M. Wittmann, W.I. Chadderton, E. Rutherford, L. Mason, & **J.M. Drake**. Predicting potential distribution of invasive species using range bagging: golden mussel and killer shrimp in the Great Lakes. Joint Aquatic Sciences Meeting. Portland, Oregon. May 2014. (Presentation)

O'Regan, S.M. & **J.M. Drake**. Early warning signals of disease emergence and leading indicators of elimination. Ecological Society of America, Minneapolis. August 4-9, 2013. (Presentation)

Drake, **J.M.** New computational methods for modeling species potential distributions. Ecological Society of America, Minneapolis. August 4-9, 2013. (Presentation)

Han, B.A. and **J.M. Drake**. Rodent reservoirs of future zoonotic pathogens. Ecological Society of America, Minneapolis. August 4-9, 2013. (Presentation)

Barnum, T.R., **J.M. Drake**, C. Colón-Gaud, A.T. Rugenski, T.C. Frauendorf, S. Connelly, S.S. Kilham, M.R. Whiles, K.R. Lips, and C.M. Pringle. Food web properties persist following amphibian extirpations in a Neotropical stream. Ecological Society of America, Minneapolis. August 4-9, 2013. (Presentation)

Dallas, T. and **J.M. Drake**. The influence of nitrate and pathogen dose on infection dynamics and host traits in a *Daphnia*-microparasite system. Ecological Society of America, Minneapolis. August 4-9, 2013. (Presentation)

Kramer, A.M. M.M. Lyons, F.C. Dobbs, and **J.M. Drake**. Tiny islands: Colonization and extinction of microbial species on marine aggregates. Ecological Society of America, Minneapolis. August 4-9, 2013. (Presentation)

Hackett, E., J. Parker, U. Cote, **J.M. Drake**, S. Hampton, E. Leahey, C. McClain, B. Penders, I. Rafols, S. Rebich Hespanha, L. Sheble, N. Vermueulen, T. Vision. Stumbling in a complex new direction: notes from underwater. Annual Meetings of the Society for Social Studies of Science, San Diego, California. October 2013. (Presentation)

The sensible science working group (Hackett, E., J. Parker, U. Cote, **J.M. Drake**, S. Hampton, E. Leahey, C. McClain, B. Penders, I. Rafols, S. Rebich Hespanha, L. Sheble, N. Vermueulen, T. Vision). Assessing synthesis and synthesis centers. First Global Meeting of Synthesis Center Directors, Aix en Provence, France. October 2013. (Invited presentation)

Barnum, T., J.M. Drake, C. Colon-Gaud, A. Rugenski, T. Frauendorf, S.S. Kilham, M.R. Whiles, K.R. Lips and C.M. Pringle. 2013. Consequences of catastrophic amphibian declines on the food web attributes of a tropical stream. Annual Meeting of the Society for Freshwater Science, Jacksonville, FL. May 19-23, 2013 (Presentation)

Kramer, A.M., J. E. Ward, M. Pierce, F. Dobbs, **J.M. Drake**. Understanding the contribution of marine aggregate-associated bacteria to pathogen load in oysters using an agent-based model. Association for the Sciences of Limnology and Oceanography,

Annual Conference, New Orleans, LA. February 2013. (Presentation).

Kramer, A.M., J. E. Ward, M. Pierce, F. Dobbs, **J.M. Drake**. The contribution of marine aggregate-associated bacteria to pathogen load in oysters: an agent-based model. NSF Ecology and Evolution of Infectious Disease PI meeting, Athens, GA. March 16-18, 2013. (Poster)

Maher, S.P., J.M. Drake, M.E. Wittmann, R. de Triquet, W.L. Chadderton, D.M. Lodge. 2012. Forecasting the distribution of two species of Asian carp using native and non-native range information. Ecological Society of American, Annual Conference, Portland OR. August 5-10, 2012. (Presentation).

Wittmann, M.E., C.L. Jerde, J.G. Howeth, S.P. Maher, **J.M. Drake**, W.L. Chadderton, A.R. Mahon, C.A. Gantz, R.P. Keller , D.M. Lodge . 2012. Reducing uncertainty in the perceived risk of grass carp (*Ctenopharyngodon idella*) invasion in the Great Lakes: Ploidy, distribution, and ecosystem impact. Ecological Society of American, Annual Conference, Portland OR. August 5-10, 2012. (Presentation).

Kramer, A.M., J.T. Pulliam, S.P. Maher, **J.M. Drake**. 2012. Simplifying networks: Spread of White-nose syndrome in North America. Ecological Society of American, Annual Conference, Portland OR. August 5-10, 2012. (Presentation).

O'Regan, S.M., K. Magori, J.T. Pulliam, M.A. Zokan, R.B. Kaul, H.D. Barton, J.M. Drake. 2012. Stochastic fade-out in space: Will microscale disease-induced mortality along geographic corridors inhibit the macroscale spread of White-nose Syndrome? Ecological Society of American, Annual Conference, Portland OR. August 5-10, 2012. (Presentation).

Maher, S. P., T. Pulliam, M. Zokan, S. Bowden, H. Barton, K. Magori, J.M. Drake. 2012. Non-diffusive spread of White-nose Syndrome regulated by spatial heterogeneity and Climate. 92nd Annual Meeting of the American Society of Mammalogists. Reno, Nevada. June 22-26, 2012. (Presentation)

Drake, J.M. 2012. Early warning of critical transitions in emerging infectious diseases. Endemic and emerging infectious diseases of priority in the Middle East and North Africa – Conference sponsored by National Institute of Allergy and Infectious Diseases (NIAID) and CRDF Global, June 18-21, 2012, Istanbul, Turkey. (Plenary presentation).

Kaul, R.B., A.M. Kramer, F.C. Dobbs, **J.M. Drake**. 2012. Allee effects in experimental microbial systems. American Society for Microbiology, June 15-20, 2012, San Francisco, California. (Poster)

Dobbs, F.C. J. E Ward, **J.M. Drake**, R. Hicks, M. M. Lyons, M. Pierce, A. Kramer, X. Zhao. 2012. Microscopic islands: Modeling the theory of island biogeography for aquatic pathogens colonizing organic aggregates. Ecology and Evolution of Infectious Diseases PI Meeting, March 26-28, 2012, Berkeley, California. (Poster)

Lyons, M., D. Kramer, E. Ward, R. Hicks, **J.M. Drake**, F. Dobbs. 2011. Microscopic Islands: the role) of organic aggregates in aquatic disease ecology. National Science Foundation Ecology of Infectious Diseases PI Meeting, March 27-28, 2011, Madison, Wisconsin. (Presentation)

Zokan, M., J. Robinson, J. Wares, **J.M. Drake**. 2011. Cryptic species of Chydorus (Crustacea: Cladocera) in the Southeastern USA Evolution 2011, June 17-21, 2011, Norman, Oklahoma. (Poster)

Drake, J.M. 2011. Cost-sensitive machine learning algorithms for invasive species decision support, risk analysis, and policy. US Department of Agriculture, Economic Research Service Program on Economic Impacts of Invasive Species. 17 May 2011. (Presentation)

Drake, J.M. 2011. Computational methods for identifying structure in ecological

networks. Ecological Society of America Annual Conference, Austin TX. 11 August 2011. (Presentation)

Schmidt, J.P. & **J.M. Drake**. 2011. Rare and pest status among vascular plants: flip sides of the same coin? A preliminary analysis of the native flora of North America. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Presentation)

Kramer, A.M. & **J.M. Drake**. 2011. Population variance and extinction of two competitors consuming a common resource. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Presentation)

Bowden, S., J.M. Drake, K. Magori, & W. Bajwa. 2011. Statistical prediction of West Nile virus transmission intensity in New York City. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Presentation)

Zokan, M. & **J.M. Drake**. 2011. Patterns of species diversity in a hyper-rich zooplankton community. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Poster)

*Stratmann, T., *T. O'Sullivan, *A. Channell, A. Kramer, M. Zokan, A. Silletti, J.M. Drake. 2011. Two paths to extinction: effect of deteriorating environments on extinction time and distribution. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Poster)

Maher, S.P., **J.M. Drake**, A. Guisan, C.F. Randin. 2011. One-class and two-class classification as methods for ecological niche modeling. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Presentation)

O'Regan, S.M. & **J.M. Drake**. 2011. Transient analysis of an SIR epidemic model. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Poster)

Barton, H.D., P. Rohani, J.D. Brown, D.E. Stallknecht, and **J.M. Drake**. 2011. Subtype diversity and reassortment potential for avian influenza viruses at a diversity hotspot. Ecological Society of America Annual Conference, Austin TX. August 7-12, 2011. (Presentation)

Kramer, A.M. & **J.M. Drake**. 2011. Stochastic colonization and extinction of microbial species on marine aggregates. NIMBioS Investigative Workshop: Individual-based Ecology of Microbes. National Institute for Mathematical and Biological Synthesis, University of Tennessee, June 2011. (Presentation)

Dobbs, F.C., **J.M. Drake**, R. Hicks, E. Ward, M.M. Lyons, A. Kramer, M. Pierce, X. Zhao. 2011. Microscopic islands: Modeling the theory of island biogeography for aquatic pathogens colonizing organic aggregates. National Science Foundation Ecology of Infectious Diseases PI Meeting, March 27-28, 2011, Madison, Wisconsin. (Poster)

Kramer, A., and **J.M. Drake**. 2011. Mechanistic model of bacterial persistence on marine aggregates. National Science Foundation Ecology of Infectious Diseases PI Meeting, March 27-28, 2011, Madison, Wisconsin. (Poster)

Drake, J.M., K. Magori, *K. Knoblich, W. Bajwa. 2011. Mapping the force-ofinfection of West Nile virus in New York City. National Science Foundation Ecology of Infectious Diseases PI Meeting, March 27-28, 2011, Madison, Wisconsin. (Poster)

Drake, J.M. & B.D. Griffen. 2011. Early warning signals of extinction in a deteriorating environment. Gordon Research Conference on Stochastic Physics in Biology. Ventura, California. January 24-28, 2011. (Poster)

Pacifici, K., **J.M. Drake**, W. Bajwa. 2010. A hierarchical Bayesian spatial model to evaluate the influence of covariates on the spatio-temporal dynamics of West Nile virus in New York City. International Statistical Ecology Conference 2010. University

of Kent, Canterbury, Kent, UK. July 6-9, 2010. (Presentation).

Roche, B., **J.M. Drake**, P. Rohani. 2010. Phylodynamics of influenza viruses: what is the role of environmental transmission. Ecology and evolution of infections diseases 8th annual workshop and conference. Ithaca, New York. June 2-5, 2010. (Poster).

Drake, J.M., K. Magori, W. Bajwa. 2010. Percolation-like spread of West Nile virus in New York City. International Association of Landscape Ecology, annual conference 2010, Athens, Georgia. (Invited presentation).

Magori, K., *K. Knoblich, W.I. Bajwa, **J.M. Drake**. 2010. Spatial variation in WNV vector distribution in NYC. International Association of Landscape Ecology, annual conference 2010, Athens, Georgia. (Invited presentation).

*Wong, A., W. Bajwa, **J.M. Drake**. 2010. Habitats of West Nile Virus Competent Mosquitoes: The Effects of Urbanization in New York City. University of Georgia Center for Undergraduate Research Opportunities Annual Conference, Athens Georgia. March 29, 2010. (Poster)

Kramer, A., E. Vercken, P.C. Tobin, **J.M. Drake**. 2010. Allee effects induce critical area for establishment in gypsy moth invasion. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Magori, K., C. Michael and **J.M. Drake**. 2010. Multi-modal epidemics in multihost pathogens. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Bowden, S., K. Magori, and **J.M. Drake**. 2010. Regional differences in the association between land cover and West Nile virus incidence in humans in the United States. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Poster).

Drake, **J.M.** and B.D. Griffen. 2010. Early warning signals of extinction in deteriorating environments. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Schmidt, J.P., and **J.M. Drake**. 2010. Cost-sensitive risk assessment for invasive plant species in the United States. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Drake, J.M. 2010. How do microcosms tell us about nature? Notes toward a mechanistic understanding of population extinction. Sustainable conservation: bridging the gap between discipline, special conference. Trondheim, Norway, March 15-18, 2010. (Invited presentation.)

Dobbs, F., **J.M. Drake**, J.E Ward, R.E. Hicks. 2010. Microscopic islands: Modeling the theory of island biogeography for aquatic pathogens colonizing marine aggregates. NSF Ecology of Infectious Diseases Network Meeting, Atlantic City, New Jersey. March 22-25, 2010 (Poster).

Magori, K., C. Michael, **J.M. Drake**. Multi-modal Epidemics in Multi-host Pathogens. NSF Ecology of Infectious Diseases Network Meeting, Atlantic City, New Jersey. March 22-25, 2010 (Poster).

Drake, J.M. 2010. Patterns in the case fatality rate of West Nile virus in North America: Evidence for directional changes in virulence? NSF Ecology of Infectious Diseases Network Meeting, Atlantic City, New Jersey. March 22-25, 2010 (Invited presentation).

Lyons, M.M., J.E. Ward, H. Gaff, R. Hicks, **J.M. Drake**, F.C. Dobbs. 2010. Theory of island biogeography on a microscopic scale: Are organic aggregates islands for aquatic pathogens? Ocean Sciences, Portland, Oregon. March 24, 2010. (Poster).

Drake, **J.M.**, K. Magori, W. Bajwa. 2009. Percolation-like spread of West Nile virus in New York City. Ecological Society of America, annual conference 2009, Albuquerque,

New Mexico. (Presentation).

Magori, K., W. Bajwa, *S. Bowden, J. Drake. 2009. Decelerating spread of West Nile virus due to percolation in a heterogeneous, urban landscape. Ecology and evolution of infections diseases 7th annual workshop and conference. Athens, Georgia. May 21-22, 2009. (Poster).

*Bowden, S., and **J.M. Drake**. West Nile Virus in New York City: Using Birds as an Indicator of Spatio-temporal Distribution. University of Georgia Center for Undergraduate Research Opportunities Symposium, Athens, Georgia. April 6, 2009. (Poster).

Drake, **J.M.**, and W. Bajwa. 2009. Percolation-like spread of West Nile virus in New York City. NSF Ecology of Infectious Diseases Network Meeting, Park City, Utah. March 30-April 2, 2009 (Invited presentation).

Drake, **J.M.** 2009. Shrinking degrees of separation among the world's ports. AAAS, annual conference 2009, Chicago, Illinois. (Invited presentation).

Drake, J.M., K. Magori, W. Bajwa. 2008. Population dynamics of West Nile Virus in New York City (1999-2007). EPIDEMICS - the inaugural conference on infectious disease dynamics. Asilomar Conference Grounds, Monterey, CA December 1, 2008. (Presentation).

Magori, K., **J.M. Drake**, *S. Bowden, C. Michael, W. Bajwa. Bites in the Big Apple: Ecology of West Nile Virus in New York City. UGA-CDC Collaborative Research Forum, CDC Headquarters, September 4, 2008. (Poster).

Magori, K., J. Drake, *S. Bowden, C. Michael, W. Bajwa. Bites in the Big Apple: Ecology of West Nile Virus in New York City. EPIDEMICS - the inaugural conference on infectious disease dynamics. Asilomar Conference Grounds, Monterey, CA December 1, 2008 (Poster).

Drake, **J.M.**, and B.D. Griffen. 2008. Extinction in experimental populations: effects of habitat quality, size, and metapopulation configuration. Ecological Society of America, annual conference 2008, Milwaukee, Wisconsin (Presentation).

Drake, J.M., K. Magori, W. Bajwa. 2008. Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). Ecology and Evolution of Infectious Diseases Conference 2008, Fort Collins, Colorado. June 5-8, 2008. (Poster).

Drake, J.M., W. Bajwa, and K. Magori. 2008. Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). University of Georgia, Global Health Symposium 2008, Athens, Georgia. April 21-22, 2008. (Poster).

*Shapiro, J. & **J.M. Drake**. 2008. Effects of initial population size and food quality on stochastic population persistence. University of Georgia Center for Undergraduate Research Opportunities Symposium, Athens, Georgia. March 31, 2008. (Poster).

Drake, **J.M.** 2007. West Nile virus in New York City. Ecology of Infectious Disease, PI meeting, Albuquerque, New Mexico. (Poster).

Drake, J.M. 2007. Accuracy and uncertainty in environmental niche modeling. Ecological Society of America, annual conference 2007, San Jose, California. (Invited presentation).

Drake, J.M., S. Chew, & S. Ma. 2006. Social learning in emerging epidemics: intervention effectiveness in the 2003 SARS outbreak in Singapore. Ecological Society of America, annual conference 2006, Memphis, Tennessee. (Presentation).

Drake, J.M., T. Knight, & J. Chase. 2005. When management might backfire: density-dependent population dynamics of the invasive biennial Alliaria petiolata (Garlic Mustard). Ecological Society of America, annual conference 2005, Montréal, Canada. (Presentation).

Drake, J.M., D.M. Lodge, K.L.S. Drury, A. Blukacz, and N. Yan. 2004. Modeling windows of invasion risk for spiny water flea (Bythotrephes longimanus) in North America with a nonhomogeneous birth death process. Ecological Society of America, annual conference 2004, Portland, Oregon. (Presentation).

Drake, J.M., D.M. Lodge. 2004. Global Hotspots of Biological Invasion: Evaluating Options for Ballast Water Management. Presented at American Institute of Biological Sciences, annual conference, Washington D.C. March 2004. (Poster).

Drake, **J.M.** 2004. Risk analysis for invasive species and emerging infectious diseases: concepts and applications. 24th annual Midwest Ecology and Evolution Conference, Notre Dame, Indiana. 7 March 2004. (Presentation).

Drake, J.M. 2003. The measurement of biological diversity, 1943-1982. International Society for the History, Philosophy, and Social Studies of Biology biannual conference, Vienna, Austria, July 1620, 2003. (Presentation).

Drake, J.M., M.A. Lewis, and D.M. Lodge. 2003. Policy Recommendations for Ballast Water Standards. 12th Annual Aquatic Nuisance Species Conference, 2003, Windsor, Ontario. (Presentation).

Drake, J.M., D.M. Lodge and N. Yan. 2002. Allee effects and the success of colonizing species: Bythotrephes longimanus in North America. Ecological Society of America, annual conference 2002, Tucson, Arizona. (Presentation).

Drake, J.M., D.M. Lodge, K.L.S. Drury and G Dwyer. 2002. Predicting invasion success: Deriving standards for ballast water from theoretical models. 11th Annual Aquatic Nuisance Species Conference, 2002, Washington D.C. (Presentation).

Drake, J.M., D.M. Lodge, N. Yan. 2001. Why it takes more than one Bythotrephes to cause an invasion. "Risk Assessment for Invasive Species: Perspectives from Theoretical Ecology" a joint workshop of the Ecological Society of America and the Society for Risk Analysis, New Mexico State University, Las Cruces, New Mexico, 21-23 October 2001. (Poster).

Drake, J.M., D.M. Lodge, K.L.S. Drury and G. Dwyer. 2001. Predicting invasion success: Applying probabilistic models of population growth to invading species. International Association of Great Lakes Research annual conference 2001, Green Bay, Wisconsin. (Presentation).

Drake, J.M., D.M. Lodge, K.L.S. Drury and G. Dwyer. 2001. Predicting the success of invading species: applying stochastic models of population growth and the role of Allee effects. Society for Conservation Biology annual conference 2001, Hilo, Hawaii. (Presentation).

INVITED SEMINARS Modeling in disease ecology. Scoping workshop: ARS Geospatial and Environmental & LECTURES Epidemiology Research Unit, Mississippi State University. May 21, 2024.

Anticipating tipping points in nature and society. Covenant College. January 18, 2024.

Modeling and analytics for infectious disease intelligence. Department of Biology, Georgia Tech. October 19, 2023.

Predictive modeling for wastewater-based infectious disease surveillance. Committee on Community Wastewater-based Infectious Disease Surveillance. National Academies of Sciences, Engineering, and Medicine. October 6, 2023.

Ecosystems and planetary health. China-U.S. Scientific Engagement: Sustainability and Planetary Health—Key Issues and Possible Solutions, National Academies of Sciences, Engineering, and Medicine, Irvine, California, June 20, 2023. (Workshop summary)

Early warning signals for infectious disease intelligence. Department of Civil & Envi-

ronmental Engineering, Massachusetts Institute of Technology. May 3, 2023.

Modeling and analytics for infectious disease intelligence. Data-Driven Approaches to Prevent the Next Pandemic Distinguished Speaker Series. School of Public Health and Hariri Institute for Computing and Computational Science and Engineering, Boston University. May 2, 2023.

Real-time compartmental modeling for decision support during outbreaks of novel pathogens. International Forum on Ecology & Evolution of Avian Influenza. March 21, 2023.

Patterns in emerging pathogens of livestock. Symposium on Global Change at the Nexus of Climate, Biodiversity, and Disease. Peter Wall Institute for Advanced Study, University of British Columbia, Vancouver. August 8, 2022.

State of the art in infectious disease modeling. MITRE Corporation. April 19, 2022.

UGA 2022 Charter Lecture. University of Georgia, April 12, 2022.

Early warning signals of emerging infectious diseases. Harvard University, February 4, 2022.

The macroecology of epidemics. Washington State University, School of Biological Sciences. February 7, 2022.

Semi-automated modeling of COVID-19 in the United States. University of Georgia, Statistics Club, State Botanical Garden of Georgia. April 15, 2021.

Semi-automated modeling of COVID-19 in the United States. Huntington University, Smith Lecture. March 26, 2021.

Semi-automated modeling of COVID-19 in the United States. Imperial College London, Silwood Park. March 4, 2021.

Modeling COVID-19 forecasts for the US by state. The University of Texas at Austin. November 18, 2020.

National Summit – epidemiological modeling and prediction. National Summit on the Science and Technology of Epidemiological Modeling and Prediction. November 12, 2020.

Forecasting emerging infectious diseases: ensuring the U.S. is best positioned to respond to public health threats. Federal Staffers Retreat. September 1, 2020.

Stochastic dynamical model of SARS-CoV-2 transmission in the US. MIDAS Webinar Series. July 31, 2020.

Discussion with undergraduates. UGA Coronavirus Working Group. June 11, 2020.

Ask me anything. UGA Coronavirus Working Group. June 8, 2020.

Critical transitions in ecology and epidemiology. Cary Institute, Millbrook, New York. November 7, 2019.

Behavior, learning & containment of disease outbreaks. University of Georgia, College of Public Health (Pudong CDC Delegation). January 23, 2019.

Tipping points in infectious disease transmission. University of Georgia, College of Veterinary Medicine, Department of Infectious Diseases. August 27, 2018.

The ecology of Ebola. University of Georgia, College of Public Health Global Health Institute. February 22, 2018.

Risk analysis for emerging infectious diseases. University of Georgia, College of Public Health (Pudong CDC Delegation). October 26, 2017.

Infectious disease networks: Data, modeling & prediction. University of Georgia, Department of Plant Pathology. April 24, 2017.

Early warning signals of critical transition in ecology and epidemiology. University of

Florida, Department of Wildlife Ecology & Conservation. February 27, 2017.

Multiscale models of infectious diseases. University of Georgia, Seminar in Complex Systems. January 24, 2017.

Early warning signals of tipping points in emerging infectious diseases. Virginia Tech, Department of Biological Sciences. April 7, 2016.

The ecology and epidemiology of Ebola. University of Toronto, Department of Ecology & Evolutionary Biology. December 4, 2015.

Ebola cases and health system demand in Liberia. Maxwell A. Bempong lecture in Environmental Biology, Norfolk State University. October 20, 2015.

Computational botany for invasive species decision support, risk analysis, and policy. Norfolk State University, Department of Biology. October 20, 2015.

Spread of White-nose syndrome on a spatial network. Morehouse College, Biology Department. September 30, 2015.

The ecology of Ebola. Keynote lecture, University of Georgia, College of Veterinary Medicine, Department of Infectious Diseases Annual Retreat. April 10, 2015.

A multi-type branching process model for the transmission of Ebola virus. RAPIDD Workshop on Ebola Forecasting Approaches, Fogarty International Center, National Institutes of Health, Bethesda, Maryland. March 23, 2015.

The ecology of Ebola. Odum School of Ecology, University of Georgia. January 27, 2015.

Ebola cases and health system demand in Liberia. US Centers for Disease Control & Prevention, Atlanta, Georgia. January 14, 2015.

Spread of White-nose syndrome in a heterogeneous spatial network. Department of Biology, Kennesaw State University. September 30, 2014.

Early warning signals of emerging infectious diseases. Georgia Southern University, Epidemiology Department. September 12, 2014.

Spread of White-nose syndrome on a spatial network. Grambling State University, Biology Department. January 23, 2014.

Population biology of infectious diseases. Philander-Smith College, Division of Natural and Physical Sciences. January 24, 2014.

Spread of White-nose syndrome on a spatial network. University of Arkansas Little Rock, Department of Biology. January 24, 2014.

Tipping points in nature and society. Moore College (Honors Program), University of Georgia. January 30, 2014

Early warning signals of critical transitions in infectious disease dynamics. Georgia Regents University, Department of Biostatistics & Epidemiology. November 1, 2013.

Early warning signals of critical transitions in infectious disease dynamics. University of Georgia, Department of Mathematics, Applied Mathematics Seminar series. October 7, 2013.

Early warning signals of critical transitions in infectious disease dynamics. Isaac Newton Institute for Mathematics workshop on Infectious Disease Dynamics, Cambridge, UK. August 21, 2013.

Current problems in forecasting epidemiological transitions. US Department of Health & Human Services Biomedical Advanced Research and Development Authority, Washington D.C. May 2, 2013.

Spread of White-nose syndrome in a heterogeneous spatial network. University of Liverpool. November 6, 2012.

Early warning signals of extinction in a deteriorating environment. University of Sheffield, October 17, 2012.

Early warning signals of extinction in a deteriorating environment. Natural Environment Research Council Centre for Ecology & Hydrology (Wallingford, UK). September 19, 2012.

Spread of White-nose syndrome in a heterogeneous spatial network. Microsoft Research, Cambridge, UK. June 8, 2012.

Early warning systems for critical transitions in ecology and epidemiology. Imperial College London – Silwood Park Campus, May 31, 2012.

Early warning signals of extinction in a deteriorating environment. University of Helsinki (Metapopulation Research Group), May 23, 2012.

Early warning systems for critical transitions in ecology and epidemiology. Oxford University (Center for Mathematical Biology), April 27, 2012.

Spread of White-nose syndrome in a heterogeneous spatial network. University of Basel. April 12, 2012.

Disease and the environment. National Center for Ecological Analysis and Synthesis (Santa Barbara, California), 2012 NCEAS Symposium on Trends in Ecological Analysis & Synthesis. March 22, 2012. (Invited panelist)

Spread of White-nose syndrome in a heterogeneous spatial network. Oxford University (Department of Zoology). March 9, 2012.

Spread of White-nose syndrome in a heterogeneous spatial network. University of Cambridge. March 5, 2012.

Cost-sensitive machine learning algorithms for invasive species decision support, risk analysis, and policy. US Department of Agriculture, Economic Research Service Program on Economic Impacts of Invasive Species. May 17, 2011.

Early warning signals of extinction in a deteriorating environment. University of Guelph (Ontario, Canada). April 12, 2011.

Computational methods for identifying structure in biological networks. Washington University. February 15, 2011.

Early warning signals of extinction in a deteriorating environment. Washington University. February 14, 2011.

Early warning signals of extinction in a deteriorating environment. University of Nebraska-Lincoln. January 20, 2011.

Mechanistic analogy: How microcosms tell us about nature. University of South Carolina. December 10, 2010.

Population dynamics of West Nile virus. National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control, Atlanta, Georgia. October 13, 2010.

Early warning signals of extinction in deteriorating environments. Emory University. September 17, 2010.

Reaction-diffusion model of biological invasion for species with an Allee effect: Application to ballast water discharge 1st meeting of NRC Committee on Assessing Numeric Limits for Living Organisms in Ballast Water. June 2, 2010.

Population dynamics of West Nile virus in New York City University of Michigan, Center for the Study of Complex Systems. April 19, 2010.

Cost-sensitive machine learning algorithms for invasive species decision support, risk analysis, and policy: genus level patterns. US Department of Agriculture, Economic Research Service Program on Economic Impacts of Invasive Species. October 22, 2009. Decelerating traveling waves of West Nile virus in a heterogeneous, urban environment. University of Georgia. September 29, 2009.

Anomalous patterns of West Nile virus mortality in the US (1999-2007). University of Georgia (EDGE). September 18, 2009.

Decelerating traveling waves of West Nile virus in a heterogeneous, urban environment. University of South Carolina. September 12, 2009.

Demographic stochasticity and the Daphnia model. Georgia Tech. October 1, 2008.

Population dynamics of West Nile virus in New York City (1999-2007). National Institutes of Health, Fogarty International Center. August 11, 2008.

Global change and disease distributions: mapping uncertainty. University of Georgia, 2007 BHSI Spring Symposium: Climate, Ecology and Infectious Disease. April 16, 2007.

Infectious disease mediated by environmental change: An issue for environmental justice? University of Georgia, River Basin Center. February 9, 2007.

Do we need an ecological ethics? Harvard Forest. July 24, 2006.

Biological invasions in aquatic ecosystems: Local and global dynamics. University of North Carolina, Chapel Hill. February 13, 2006.

Forecasting population fluctuations in ecology and epidemiology: Stochastic phenomena & computational analysis. Virginia Polytechnic Institute and State University. February 9, 2006.

Understanding the drivers of population fluctuation and expansion: extinction, invasion, and disease outbreak on landscapes. Georgia Tech. January 27, 2006.

Mechanistic and computational approaches to forecasting population fluctuations in ecology and epidemiology. University of Georgia, Institute of Ecology. January 23, 2006.

Computational approaches to modeling disease-environment interactions: forecasting malaria dynamics in Africa with support vector machines. Penn State, Center for Infectious Disease Dynamics. November 12, 2005.

Local and global dynamics of biological invasions in aquatic ecosystems. Washington University. November 3, 2005.

Computational approaches to ecological forecasting: Disease outbreaks and species redistribution. Washington University. November 4, 2005.

Modeling the potential distribution of zebra mussels in the United States: pattern recognition and one-class classification. University of Tennessee, Knoxville, TN. February 4, 2005.

Ethical considerations: why does it matter? Lecture Series: Invasive Species and the Public Good, opening forum. Yale School of Forestry and Environmental Studies, New Haven, CT. January 24, 2005.

Allee effects in invasive species: the discrepancy between models and data. USDA Interagency Research Forum on Gypsy Moth and other Invasive Species, Annapolis, MD. January 18-21, 2005.

Extinctions in experimental populations. National Center for Ecological Analysis and Synthesis, Santa Barbara, CA. October 28, 2004.

Bythotrephes, ballast water and biological invasions: Population biology and risk analysis. McGill University. February 11, 2004.

How many animals does it take to start an invasion? Population biology for risk analysis of non-indigenous species. Covenant College. March 28, 2003. The measurement of biological diversity, 1943-1982. Southwest Colloquium in the History and Philosophy of the Life Sciences. Arizona State University. February 21-22, 2003.

Viable populations and the risk of biological invasion: Tools for managing decisions. Environmental Risk Assessment Conference, Cleveland State University Center for Environmental Science, Technology & Policy. April 26, 2002.

*Indicates

national or

significance

international

Fellowships & *Oliver Smithies Fellow, Balliol College (2025); *Fellow of the Ecological Society of AWARDS America (2020); Southeastern Conference Academic Leadership Development Program Fellow (2019); *Fellow of the American Association for the Advancement of Science (2018); University of Georgia Creative Research Medal (2014); *Keelev Visiting Fellowship, Wadham College, Oxford University (2012); University of Georgia, Sarah H. Moss Fellowship (2012); *Leverhulme Foundation Visiting Professorship, Oxford University (2012); University of Georgia Excellence in Undergraduate Research Mentoring Faculty Award (2011); National Center for Ecological Analysis and Synthesis, Postdoctoral Fellowship (Summer 2004-Summer 2006); University of Notre Dame, Department of Biological Sciences 2004 Research Achievement Award (2004): Silicon Graphics Inc. (SGI), University of Notre Dame, College of Science Award for Computational Science and Visualization (2004); NSF Graduate Research Fellowship Honorable Mention (2000); Schmitt Research Fellowship (University of Notre Dame; 1999-2003); Phi Theta Kappa (International Honor Society; 1996); E. Gordon Riley Scholarship (1996); Buffalo Foundation Scholarship (1997); Covenant College Instrumental Music Scholarship (1996-1998); Maryland Saltwater Sportfisherman's Association Scholarship (1996-1998); AuSable Institute Fellow (1998); Covenant College Presidential Scholarship (1996-1999); Covenant College McDonald Scholarship (1997-1999); Dean's List (Anne Arundel Community College, 1994-1996; Covenant College, 1996-1999); Eagle Scout Award (1993)

Theses Directed

Nicholas Adam (PhD, expected 2028)

Abdul Ali (PhD, expected 2028)

Kane Moser (MS, expected 2025)

Anna Willoughby (PhD, expected 2025)

Joy Vaz (MS, University of Georgia, Ecology; 2021) Thesis: Parasite, Host, and Environmental Traits Predict the Zoonotic Risk of Protozoan Parasites

Reni Kaul (PhD, University of Georgia, Ecology; 2021) Thesis: Bringing Theory to Life: Noise-induced Transitions

Robbie Richards (PhD, University of Georgia, Ecology; 2021) Thesis: The Effects of Predators on Parasites in their Prey

Paige Miller (PhD, University of Georgia, Ecology; 2020) Thesis: Social Structure, Contact Networks, and Spread of Respiratory Infections

Michelle Evans (PhD, University of Georgia, Ecology; 2020) Thesis: An Integrative Approach to Mosquito-borne Disease in Urban Areas

 Tad Dallas (PhD, University of Georgia, Ecology; 2016)
 Thesis: Biotic and Abiotic Factors Influencing Host-Pathogen Dynamics in a Zooplankton-Fungus System

Sarah Bowden (PhD, University of Georgia, Ecology; 2016) Thesis: Trans-boundary Ecosystem Effects on Vector Community Diversity: Implications for Dilution and Amplification in Multi-species Host-Pathogen Systems

	 Kimmy Kellett (PhD, University of Georgia, Ecology; 2015) Thesis: How Seasonal and Annual Variation in Demography Influence Popula- tions of a Neotropical Milkwood, Ascelpias currassavica
	 Marcus Zokan (PhD, University of Georgia, Ecology; 2015) Thesis: Zooplankton Species Diversity in the Temporary Wetland System of the Savannah River Site, South Carolina, USA
Thesis Committees	Ying Qian (PhD, University of Georgia, Biomedical Engineering; Thesis advisor: H. Li.)
	Katie Schroeder (PhD, University of Georgia, Ecology; Thesis advisor: A. Strauss)
	Ishaan Dave (PhD, University of Georgia, Department of Epidemiology & Biostatistics; Thesis advisor: M. Hallow, 2023)
	Deven Gokhale (PhD, University of Georgia, Ecology; Thesis advisor: P. Rohani, 2022)
	John Vinson (PhD, University of Georgia, Ecology; Thesis advisor: A. Park, 2020)
	Molly Fisher (PhD, University of Georgia, Ecology; Thesis advisor: J. Gittleman, 2018)
	Chao Song (PhD, University of Georgia, Ecology; Thesis advisor: F. Ballantyne, 2018)
	Elise Krueger (MS, University of Georgia, Ecology; Thesis advisor: F. Ballantyne, 2018)
	Joey Ruberti (MS, University of Georgia, Computer Science; Thesis advisor: B. Arpinar, 2016)
	Thomas Barnum (PhD, University of Georgia, Ecology; Thesis advisor: C. Pringle, 2014)
	Krishna Pacifici (MA, University of Georgia, Statistics; Thesis advisor: N. Lazar, 2012)
	Shan Huang (PhD, University of Georgia, Ecology; Thesis advisors: J. Gittleman and S. Altizer, 2012)
	John Robinson (PhD, University of Georgia, Genetics; Thesis advisor: J. Wares, 2011)
	Krishna Pacifici (PhD, University of Georgia, Forestry and Natural Resources; Thesis advisor: M. Conroy, 2011)
	Ken Leonard (PhD, University of Georgia, Ecology; Thesis advisor: M. Bradford, 2010)
	Catherine Bradley (PhD, University of Georgia, Ecology; Thesis advisor: S. Altizer; 2009)
External Theses Reviewed	Subhendu Bhandary (PhD, Indian Institute of Technology Ropar; Thesis advisor: P. Dutta, 2023)
Postdoctoral Associates	Mozzamil Mohammed (2024 - present)
ASSOCIATES	Kerri-Ann Anderson (2024 - present)
	Anurag Sau (2022 - 2024)
	Sukanta Sarkar (2022 - 2024)
	Alpha Forna (2021 - present)
	Kaniz Fatema Nipa (2021 - 2022)
	Kyle Dahlin (2020 - 2023)
	John Vinson (2020 - 2022)
	Cecilia Sánchez (2020)

	Andrew Tredennick (2018 - 2019)
	Elijah Carter (2016 - 2018)
	Eamon O'Dea (2015 - 2021)
	Chris Dibble (2015 - 2016)
	Kimmy Kellett (2015)
	Niles Johnson (2012)
	Barbara Han (2011 - 2014)
	Suzanne O'Regan (2011 - 2013)
	John Robinson (2011)
	Heather Barton (2010 - 2012)
	Sean Maher (2010 - 2011)
	Krisztian Magori (2007 - 2009)
	Blaine Griffen (2007 - 2008)
TEACHING	Senior Seminar (ECOL 4950)
	Fall 2006, Spring 2013, Spring 2022, Spring 2023, Spring 2024
	Population & Evolutionary Ecology (ECOL 8310) Fall 2007, Fall 2008, Fall 2009, Fall 2011, Fall 2013
	Introduction to Applied Statistics (ECOL 8990) Fall 2007
	Population & Community Ecology (ECOL 4000/6000) Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2022
	Data Visualization (ECOL 8990) Fall 2008
	Meta-analysis (ECOL 8910) Spring 2010
	Time Series Analysis (ECOL 8910) Fall 2010
	Nonlinear Time Series Analysis (ECOL 8910) Spring 2011
	Quantifying Biodiversity (ECOL 8910) Spring 2014
	First Year Odyssey Seminar: Introduction to Mathematical Biology (FYOS 1001) Fall 2011
	First Year Odyssey Seminar: The Structure of Scientific Revolutions (FYOS 1001) Fall 2013
	First Year Odyssey Seminar: Data Science (FYOS 1001) Fall 2016
	First Year Odyssey Seminar: Ecology of Infectious Diseases (FYOS 1001) Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2022, Fall 2023, Fall 2024
	First Year Odyssey Seminar: Pandemic Science (FYOS 1001) Spring 2022
	First Year Odyssey Seminar: Ebola (FYOS 1001) Spring 2017

Cross-Disciplinary Ecology (ECOL 8030) Fall 2014
Introduction to Computational Statistics (ECOL 8910) Spring 2015
Ecological Niche Theory and Species Distribution Modeling (ECOL 8910) Spring 2016
Multi-scale Modeling (ECOL 8910) Spring 2017
Fundamentals of Disease Biology I (ECOL 8510) Fall 2020
Fundamentals of Disease Biology II (ECOL 8520) Spring 2017
Interdisciplinary Problem-solving in Infectious Disease Ecology (ECOL 8530) Spring 2020, Spring 2021
Computational Workshop (ECOL 8540) Summer 2017, Summer 2018, Summer 2019, Summer 2020
Global Change and Emerging Infectious Diseases (ECOL 2300) Spring 2023
GradFIRST (GRSC 7001) Spring 2023, Fall 2023, Fall 2024
Statistical Reasoning (ECOL 8910) Fall 2024
Vertically Integrated Projects for Research (VIPR 2601) Fall 2024
Division of Global Migration Health, US Centers for Disease Control & Prevention, Atlanta, Georgia. January - August, 2024 ("Data science for decision-makers")
Center for Surveillance, Epidemiology, and Laboratory Services, US Centers for Disease Control & Prevention, Atlanta, Georgia. January 4 - March 17, 2022 ("Mathematical models of infectious diseases")
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, US Centers for Disease Control & Prevention, Atlanta, Georgia. August 9-13, 2021 ("Mathematical models of infectious diseases")
11 th Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 8-10, 2019 (Instructor for module "Mathematical models of infectious diseases")
\mathcal{I}^{rd} IDEAS Computational Modeling Workshop, University of Georgia, Athens, Georgia. May 13-15, 2019 (Module 1: Introduction to scientific programming, Instructor)
\mathcal{I}^{rd} IDEAS Computational Modeling Workshop, University of Georgia, Athens, Georgia. May 15-17, 2019 (Module 2: Mathematical models of infectious diseases, Instructor)
10 th Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 9-11, 2018 (Instructor for module "Mathematical models of infectious diseases")
2 nd IDEAS Computational Modeling Workshop, University of Georgia, Athens, Georgia. May 14-16, 2018 (Module 1: Introduction to scientific programming, Instructor)

Workshops

 9^{th} Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 10-12, 2017 (Instructor for module "Mathematical models of infectious diseases")

1st IDEAS Computational Modeling Workshop, University of Georgia, Athens, Georgia. May 15-17, 2017 (Module 1: Introduction to scientific programming, Instructor)

1st IDEAS Computational Modeling Workshop, University of Georgia, Athens, Georgia. May 17-19, 2017 (Module 2: Mathematical models of infectious diseases, Instructor)

8th Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 11-13, 2016 (Instructor for module "Mathematical models of infectious diseases")

7th Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 6-8, 2015 (Instructor for module "Mathematical models of infectious diseases")

6th Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 7-9, 2014 (Instructor for module "Mathematical models of infectious diseases")

5th Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 8-10, 2013 (Instructor for module "Mathematical models of infectious diseases")

Early-warning signals for critical transitions: bridging the gap between theory and practice, Royal Netherlands Academy of Arts and Sciences (Amsterdam, The Netherlands). October 12, 2012 (Instructor)

 4^{th} Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. July 11-13, 2012 (Instructor for module "Mathematical models of infectious diseases")

Mathematical Modeling of Infectious Diseases, Centers for Disease Control & Prevention, Atlanta, Georgia. November 14-18, 2011 (Instructor)

Ecology and Evolution of Infectious Disease 9th Annual Workshop and Conference, University of California Santa Barbara, Santa Barbara, California. June 22-25, 2011 (Instructor for ecology workshop)

 β^{rd} Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. June 15-17, 2011 (Instructor for module "Mathematical models of infectious diseases")

Ecology and Evolution of Infectious Disease 8th Annual Workshop and Conference, Cornell University, Ithaca, New York. June 6-9, 2010 (Instructor for ecology workshop)

 2^{nd} Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. June 13-15, 2010 (Instructor for module "Mathematical models of infectious diseases")

Ecology and Evolution of Infectious Disease 7th Annual Workshop and Conference, University of Georgia, Athens, Georgia. May 17-22, 2009 (Instructor for ecology workshop)

1st Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington. June 15-17, 2009 (Instructor for module "Mathematical models of infectious diseases")

Environmental Risk Assessment, Cleveland State University, Center for Environmental Science, Technology and Policy, April 26, 2002 (Instructor for workshop "Using environmental risk analysis to assess and control non-indigenous species invasions") CONSULTING Centers for Disease Control and Prevention (2024)

British United Provident Association Limited (Bupa) (2022)

Novacyt Group (2022)

Magellan Research Group (2020-2021)

Guidepoint Global, LLC (2020-2021)

Metabiota, 425 California St, San Francisco, CA 94104 (2017)

University of Miami, Environmental Changes and Mosquito-borne Disease in Arid Environments (2010-2015)

Lytmos Group, Inc. 400 SW Longview Blvd., Suite 290, Lee's Summit, MO 64081 (2009)

Eastern Research Group, Inc. 110 Hartwell Avenue, Lexington, MA 02421-3131 (2008) World Health Organization (2008)

Reviewing for Acta Tropica, American Midland Naturalist; American Naturalist; Biological Dynam-JOURNALS ics; Biological Invasions; Biological Reviews; Biology Letters; BMC Evolutionary Bioloqy; Bulletin of Mathematical Biology, CABI, Canadian Aquatic Invasive Species Network; Canadian Journal of Fisheries & Aquatic Sciences; Canadian Journal of Forest Research; CBE: Life Sciences Education; Christian Scholar's Review; Conservation Biology; Conservation Letters; Coral Reefs; Diversity; Diversity & Distributions; Ecohealth; Ecosphere; Ecography; Ecological Applications; Ecological Economics; Ecological Entomology; Ecological Informatics; Ecological Modelling; Ecological Monographs; Ecology; Ecology & Society; Ecology Letters; Ecosystems; eLife; Environmental & Ecological Statistics: Environmental Science & Technology: Epidemiology & Infection: Evolution; Frontiers in Ecology & Environment; Frontiers in Ecology & Evolution; Global Ecology & Biogeography; International Journal of Biostatistics; International Journal of Infectious Disease; Journal of Animal Ecology; Journal of Applied Ecoloqu; Journal of Theoretical Biology, Journal of the Royal Society Interface; Lancet Digitial Health; Marine Ecology Progress Series; Methods in Ecology & Evolution; Nature; Nature Communications; Nature Medicine; Nature Ecology & Evolution; Oecologia; Oikos; PeerJ; Philosophical Transactions of the Royal Society; Physical Review X; PLOS Biology; PLOS Computational Biology; PLOS Currents; PLOS Medicine; PLOS Neglected Tropical Diseases; PLOS ONE; Population Ecology; Proceedings of the National Academy of Sciences; PNAS Nexus; Proceedings of the Royal Society Series B; Restoration Ecology; Science; Theoretical Ecology; Theoretical Population Biology; Transactions of the American Fisheries Society; Trends in Ecology & Evolution; Virology; Weed Research

REVIEWING FOR CRC Press; Elsevier/Academic Press; National Academy of Sciences; Oxford Univer-PUBLISHERS sity Press; Princeton University Press; Springer Academic Publishing

REVIEWING FOR Biotechnology and Biological Sciences Research Council (UK); Canada Excellence Re-Search Chairs (CERC); City University of New York; Clare College, Cambridge; Fields Institute; French National Research Agency; Fulbright Scholar Program (Czechia); German Federal Ministry of Eductation & Research; Israel Science Foundation; Leverhulme Trust; Missouri Life Sciences Research Board; National Aeronautic and Space Administration, Global Climate Change Education Research Program; National Aeronautic and Space Administration, K12 Cooperative Agreements Program; National Environment Research Council (UK); National Oceanic and Atmospheric Administration Great Lakes Environmental Research Laboratory; National Science Foundation (USA); Netherlands Space Office; Research Council of Finland; Royal Society of New Zealand; Singapore Ministry of Education; Swiss National Science Foundation; UK Research & Innovation; Universite Libre de Bruxelles

News coverage

OVERAGE Rao, D. The bacterial consequences of hurricanes. *The Week*, November 22, 2024.

Cox, D. Hurricanes drive a rise in infectious diseases, leaving communities vulnerable. *TheDailyClimate*, November 5, 2024.

Cox, D. Cholera, Zika and West Nile: The deadly diseases that sweep in after hurricanes. *BBC*, October 31, 2024.

Schneider, G. Machine learning may lead to better flu vaccines. *MedicalXpress*, September 9, 2024.

Baggett, L. UGA, Penn State research team to develop new model to predict measles outbreaks. *Athens Banner-Herald*, May 23, 2024.

Shike, J. US continues efforts to keep Japanese encephalitis virus out. *Bovine Veterinarian*, November 28, 2023.

Simmons, K. Pursuing premier public health. Georgia Trend, November 2022.

King, J. Researchers developing tools to predict next pandemic. UGA Today, August 11, 2022.

Sidik, S. Simultaneous infections deserve greater focus, scientists who study animal-tohuman disease transmission argue. *SCOPE*, June 7, 2021.

Shields, J. What are confidence intervals in statistics? How Stuff Works, April 9, 2021.

Browne, E. When will the U.S. reach herd immunity with COVID? *Newsweek*, March 29, 2021.

Beeson, L. How studying ecology could prevent another pandemic *phys.org*, March 1, 2021.

Gander, K. U.S. COVID cases are down, but the virus isn't in retreat. *Newsweek*, February 16, 2021.

Selcraig, B. Big question over San Antonians prepping for Super Bowl - can it be watched safely? *San Antonio Express News*, February 3, 2021.

Cepelewicz, J. The hard lessons of modeling the coronavirus pandemic. *Quanta Magazine*, January 28, 2021.

Shupe, C. Athens News Matters: UGA CEID. Athens News Matters, January 13, 2021

King, J. New UGA model highlights continued COVID-19 risks. UGA Today, September 25, 2020.

Knight, V. College professors made models showing how bad COVID-19 would be on campus. Some administrators ignored them. *Time*, September 15, 2020.

Koerth, M. Coronavirus models were always about more than flattening the curve. *FiveThirtyEight*, September 10, 2020.

Whitford, E. Small colleges try to contain COVID clusters. *Inside Higher Ed*, September 8, 2020.

Raymond, J. 300+ UGA faculty sign letter calling in-person classes 'unwise.' WXIA TV, August 21, 2020

Downey, M. Class of 2024 is starting college where the class of 2020 left off – disappointed. Atlanta Journal Constitution, August 19, 2020.

Shearer, L. Study says 'explosive localized outbreaks" expected when classes start at universities like UGA. *Athens Banner Herald*, August 19, 2020.

Anonymous. How researchers track a disease outbreak. UGA Today, February 5, 2020.

Gavrilles, B. Ecologists detect warning signals of malaria outbreak. UGA Today, June 26, 2020.

Crist, C. Statistical model could predict disease outbreaks. UGA Today, May 21, 2019.

Anonymous. New model predicts which animal viruses may spread among humans. *Science Daily*, November 20, 2018.

Gavrilles, B. New model predicts which animal viruses may spread among humans. *Phys.org*, November 20, 2018.

Johnson, M. Can math be used to predict an outbreak? *Journal Sentinel*, November 2, 2017.

UGA News Service. New model maps likelihood of Ebola spillovers. UGA Today, April 10, 2017.

Adams, O. UGA researchers identify 26 mosquito species as potential Zika carriers. *Red & Black*, March 14, 2017.

UGA News Service. More mosquito species than previously thought may transmit Zika. UGA Today, February 27, 2017.

UGA News Service. New center will make UGA a world leader in infectious disease ecology. UGA Today, November 14, 2016.

UGA News Service. UGA-led consortium will co-present Ripple Effect Film Project. *OnlineAthens*, November 5, 2016.

UGA News Service. Ecologists create a framework for predicting new infectious diseases. UGA Today, July 21, 2016.

UGA News Service. Ecologists identify potential new sources of Ebola and other filoviruses. UGA Today, July 14, 2016.

Mapping emerging infectious diseases. WAMC Northeast Public Radio, July 12, 2016.

Kramer, D. These maps reveal where rats, monkeys, and other mammals may pass diseases on to humans. *EurekAlert*, June 14, 2016.

UGA News Service. Sexual transmission of Ebola likely to impact course of outbreaks. UGA Today, June 8, 2016.

Anonymous. Global early warning system for infectious diseases. *Science Daily*, May 20, 2016.

Damm, D. Fighting developing world disease with AI, robotics, and biotech. *Singular-ityHUB*, May 12, 2016.

Gavrilles, B. New model uses public health statistics to signal when disease elimination is imminent. UGA Today, January 4, 2016. Science Daily.

Anonymous. Will climate change lead to more disease? *The Citizen*, November 20, 2015.

Garson, P. Will climate change = more disease? *The New Humanitarian*, November 6, 2015.

Han, B. The Algorithm That's Hunting Ebola: Can machine-learning techniques identify disease-carrying species and predict epidemics? *IEEE Spectrum*, September 24, 2015.

Sainato, M. Biodiversity limits disease outbreaks among humans and wildlife. *Earth Island Journal*, August 31, 2015.

Gavrilles, B. Model demonstrates link between species' traits, competitive success, environmental conditions. *UGA Today*, August 6, 2015.

Anonymous. Forecast used to determine potential rodent population. *Poughkeepsie Journal*, July 8, 2015.

Anonymous. Forecasting future infectious disease outbreaks. *Earth Wise Radio*, June 30, 2015.

Anonymous. Models predict hotspots for future zoonotic disease. *Healio*, June 15, 2015.

Ferro, J. How studying strange critters in far off places can save your life. *Poughkeepsie Journal*, May 23, 2015.

Yanjiao, W. Scientists use artificial intelligence to hunt for human-animal diseases. *Reporting Science*, May 26, 2015.

Wienner-Bronner, D. Could adorable rodents start a pandemic in the American Midwest? *Fusion*, May 23, 2015.

Anonymous. Could a computer predict the next pandemic? *Next Einstein Forum*, June 15, 2015.

Anonymous. Researchers develop way to potentially predict future infectious disease outbreaks in human. *Medical News*, May 21, 2015.

Anonymous. Scientists use AI to predict diseases carriers RT, May 21, 2015.

Anonymous. Data-based model predicts hotspots for zoonotic pandemics. *Editage Insights*, May 21, 2015.

Anonymous. Study pinpoints the likeliest rodent sources of future human infectious diseases. *Science Daily*, May 20, 2015.

Anonymous. Using artificial intelligence to forecast future infectious disease outbreaks. Homeland Security News Wire, May 20, 2015.

Grens, K. Model predicts zoonotic hot spots. The Scientist, May 20, 2015.

Jackson, E. Predicting zoonosis using AI. Foundation for Biomedical Research, May 20, 2015.

Ossola, A. Artificial intelligence pinpoints pest that spread disease. *Popular Science*, May 19, 2015.

Anonymous. Forecasting future infectious disease outbreaks. *Infection Control Today*, May 18, 2015.

Deng, B. Artificial intelligence joins hunt for human-animal diseases. *Nature*, May 18, 2015.

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PUBLIC ACTIVITIESWebinar, "Modeling Infectious Diseases of Poultry", Georgia Poultry Laboratory Net-
work, UGA's Poultry Diagnostic Research Center (October 21, 2024)

CEID In-Person Meeting, "Infectious Diseases of Poultry", Elanco, Georgia Poultry Laboratory Network, UGA's Department of Poultry Science, UGA's Poultry Diagnostic Research Center (August 20, 2024)

CEID In-Person Meeting, "Infectious Disesae Intelligence: The Science of Predicting Pandemics", Encephalitis International (July 18, 2024)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Merck Animal Health (May 23, 2024)

CEID In-Person Meeting, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Ceva Animal Health (May 14, 2024)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", U.S. Poultry & Egg Association (March 28, 2024)

Lecture to students, "Medical impacts of climate change", Gwinnett School of Mathematics, Science, and Technology (March 20, 2024)

Continuing Education Unit, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Georgia Pest Control 2024 Spring Vector Management Academy (March 13, 2024)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Encephalitis International (March 12, 2024)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Ceva Animal Health (February 27, 2024)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", USDA APHIS (February 13, 2024)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Rollins Pest Control (February 6, 2024)

Webinar, "Modeling & Analytics for Infectious Disease Intelligence", Georgia Institute of Technology (October 19, 2023)

Webinar, "Future of Data Analysis, Visualization, & Integration in Wastewater Surveillance", NAS Committee on Community Wastewater-based Infectious Disease Surveillance (October 6, 2023) Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Atlanta Braves (April 10, 2023)

Webinar, "Meso-scale Infectious Disease Modeling", Global Infectious Disease Intelligence Consortium (March 28, 2023)

Webinar, "Spillover Risk of Pathogenic Bacteria from Wild Mammals into Pigs", Swine Health Information Center (September 22, 2022)

Webinar, "Developing a Japanese Encephalitis Virus (JEV) Spatial Spread Model for Industry", Global Infectious Disease Intelligence Consortium (July 18, 2022)

Presentation, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Boehringer Ingelheim Global Innovation Team, University of Georgia Innovation Hub (July 13, 2022)

Webinar, "Deep Dive into Spatial Interaction Models", Environmental Health Institute, Singapore (July 11, 2022)

Webinar, "Deep Dive Into Spatial Interaction Models", Global Infectious Disease Intelligence Consortium (July 11, 2022)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Kleinfelder (May 5, 2022)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Atlanta Braves (May 2, 2022)

Webinar, "State of the Art in Infectious Disease Modeling", Global Infectious Disease Intelligence Consortium (February 16, 2022)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Center for Global Health Innovation (February 14, 2022)

Webinar, "Pluralistic Modeling of Infectious Diseases," Global Infectious Disease Intelligence Consortium (February 3, 2022)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Delta Airlines (January 12, 2022)

Panelist, "Preventative Warning Systems For Infectious Diseases: Bridging Public & Environmental Health", University College London Warning Research Centre (December 7, 2021)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", University College of London, Warning Research Centre (December 7, 2021)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Deloitte (December 6, 2021)

Webinar, "Estimate the Spillover Risk of Pathogenic Bacteria from Wild Mammals into Pigs", Swine Health Information Center (December 3, 2021)

Webinar, "Infectious Disease Intelligence: The Science of Predicting Pandemics", Moderna (October 26, 2021)

Webinar, "Infectious Disease Intelligence: Predicting the Next Pandemic", Kimberly-Clark (August 5 & September 2, 2021)

Webinar, "A Data-Driven Horizon Scan of Potential Bacterial Pathogens of Livestock", Swine Health Information Center (July 30, 2021)

Webinar, "A Data-Driven Horizon Scan of Potential Bacterial Pathogens of Livestock", Swine Health Information Center (March 26, 2021)

Webinar, "Infectious Disease Intelligence: Predicting the Next Pandemic", University Industry Demonstration Partnership (March 24, 2021) Webinar, "How the CEID Can Assist the Georgia Restaurant Association", Georgia Restaurant Association (March 12, 2021)

Webinar, "A Data-Driven Horizon Scan of Potential Bacterial Pathogens of Livestock", Swine Health Information Center (March 4, 2021)

Panelist, "Data-Intensive Machine Learning and Modeling for Pandemic Preparedness", NSF Workshop on Predictive Intelligence for Pandemic Prevention (February 16-17, 2021)

Webinar, "A Data-Driven Horizon Scan of Potential Bacterial Pathogens of Livestock", Boehringer Ingelheim Animal Health (February 11, 2021)

Webinar, "Global Infectious Disease Intelligence Consortium Webinar", The National Restaurant Association (December 3, 2020)

Panelist, "Model Capabilities," Summary Report of the National Summit on the Science and Technology of Epidemiological Modeling and Prediction (December 2020)

Webinar, "Infectious Disease Models: How They Can Assist the Refrigerated Foods Association", Refrigerated Foods Association (November 18, 2020)

Webinar, "Introduction to the Odum School of Ecology and the Center for the Ecology of Infectious Diseases", Aflac (November 17, 2020)

Webinar, "Global Infectious Disease Intelligence Consortium Roundtable Discussion", Charley and Sons & The Kraft Group (October 22, 2020)

Webinar, "Introduction to the Odum School of Ecology and the Center for the Ecology of Infectious Diseases", Delta Airlines (October 2 & November 5, 2020)

Panelist, COVID-19 Town Hall with Jonathan Wallace (September 29, 2020)

Discussion, "COVID-19 and Its Impact on the Port Authority of New York and New Jersey", Port Authority of New York and New Jersey (September 15, 2020)

Panelist, "Diversity and inclusion in the Odum School of Ecology", UGA Odum School of Ecology 50:10 Celebration (January 13, 2018)

Presentation, "Disease ecology in the Odum School of Ecology", UGA Odum School of Ecology 50:10 Celebration (January 13, 2018)

Public lecture, "Mining Ecosystem Data for Prediction of Infectious Disease Outbreaks: The State of our Science", Association of Ecosystem Research Centers and American Institute of Biological Sciences: Science Briefing for Policymakers, Washington D.C. (October 24, 2017)

Public lecture, "Infectious diseases on a changing planet: How ecology drives epidemics", Reynolds Plantation, Greensboro, Georgia (July 16, 2015)

TEDxUGA, "What Jenga Can Teach Us About Epidemics", Athens, Georgia (March 16, 2015)

Panelist, "A Conversation about Ebola" public discussion at the UGA Health Sciences Campus (September 25, 2014)

APHIS-2006-0011 Importation of Plant for Planting; Establishing a Category of Plant for Planting Not Authorized for Importation Pending Pest Risk Analysis, Public Comment (with R. Keller, D. Finnoff, & D. Lodge) (October 2009)

Letter of support to Paul Stolen and Minnesota Department of Natural Resources regarding Risk and Consequence Analysis Focused on Biota Transfers Potentially Associated with Surface Water Diversions Between the Missouri River and Red River Basins by Greg Linder et al. (March 21, 2006)

APHIS-2005-0020 Proposed rules 7 CFR Part 319 – Nursery Stock Regulations, Public Comment (with R. Keller, J. Bossenbroek, & D. Lodge) (April 2004)

Increase Your Leadership on Global Warming, open letter to California Governor Schwarzenegger and California legislators from California scientists, signatory (March 2005)

USDA040371 Noxious Weeds; Notice of Availability of Petitions To Regulate Caulerpa, Public Comment (with J. Bossenbroek & R. Keller) (December 2004)

Scientists Statement: Restoring Scientific Integrity in Policy Making, signatory (September 2004)

USCG200110486 Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters, Public Comment (with D. Lodge) (December 2003)

Scientists' Call to Action on Invasive Species: Gifts To The Nation, signatory (November 2003)

Not in Our Name Statement of Conscience, signatory (November 2002)