

Pejman Rohani

Curriculum Vita

Employment Record

Associate Dean for Academic Affairs
Odum School of Ecology
University of Georgia

Jan 2022 -

Deputy Director
Center for Influenza Disease & Emergence Research
University of Georgia

Apr 2021 - Present

Regents' & Georgia Athletic Association Professor
Odum School of Ecology & Department of Infectious Diseases
University of Georgia

Jun 2015 - Present

Pearl L. Kendrick Professor
Department of Ecology & Evolutionary Biology, Center for the
Study of Complex Systems, Department of Epidemiology
University of Michigan

Sept 2009 - Jun 2015

Professor
Odum School of Ecology, Center for Tropical & Emerging
Global Diseases
University of Georgia

Aug 2008 - Sept 2009

Associate Professor
Odum School of Ecology, Center for Tropical & Emerging
Global Diseases
University of Georgia

Aug 2005 - Aug 2008

Assistant Professor
Odum School of Ecology, Center for Tropical & Emerging
Global Diseases
University of Georgia

Aug 2001 - Aug 2005

Royal Society University Research Fellow
Department of Zoology
University of Cambridge

Oct 1999 - Aug 2001

Natural Environment Research Council Fellow
Department of Zoology
University of Cambridge

Oct 1996 - Oct 1999

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Education

1995 **Doctor of Philosophy**
Biology – *Imperial College, University of London*

1991 **Bachelor of Science**
Mathematics – *University of Manchester*

Awards

2021 **Fellow**
Ecological Society of America

2020 **Regents' Professor**
University System of Georgia

2019 **Professorship**
Georgia Athletic Association

2018 **Fellow**
American Association for the Advancement of Science

2015 **President's Extraordinary Research Faculty**
University of Georgia

2014 **Collegiate Professorship**
University of Michigan

2007 **Fellow**
John Simon Guggenheim Memorial Foundation

2007 **Creative Research Medal**
University of Georgia

2004 **Lilly Teaching Fellow**
University of Georgia

2003 **New Investigator Award**
Ellison Medical Foundation

1999 **University Research Fellow**
Royal Society, UK

1999 **Advanced Research Fellow**
Natural Environment Research Council, UK

1996 **Research Fellow**
Natural Environment Research Council, UK,

Grant Funding

In Progress

Sep 2021 – Sep 2023
A genomics-based system to predict the seasonal influenza virus evolution and epidemic dominance
Centers for Disease Control & Prevention, \$732K
Babl, Robani, Drake & De Groot

Apr 2021 – Apr 2028
Center for Influenza Disease and Emergence Research
NIH, \$7m + \$3m in Options
Tompkins & Robani

Jul 2021 – Oct 2022
Using Validated Transmission Models to Inform Pertussis Vaccine Development and Policy
Sanofi, \$195K
Robani

Jun 2020 – Jun 2023
High Resolution Detection and Modeling of Salmonella Population Dynamics in Poultry
USDA, \$478K
Shariat, Robani & Nichols

Sep 2019 – Sep 2021
Integrated System to forecast dominant influenza virus in seasonal epidemics
Centers for Disease Control & Prevention, \$660K
Babl, Robani & Drake

Oct 2018 – Sep 2023
Coupled Macroparasite-Microparasite Interactions: Ecological and Evolutionary Consequences of Coinfection
National Institutes of Health, \$2m
Ezenwa, Anderson, Jolles, Robani

Oct 2017 – Sep 2022
Vaccine hesitancy and erosion of herd immunity: harnessing big data to forecast disease re-emergence
National Institutes of Health, \$2.19m; PI: Bansal (Georgetown); UGA subcontract: \$ 610K (+\$100K supplement)
Robani

Oct 2017 – Jun 2022
Southern Africa Mother Infant Pertussis Study - Nasopharyngeal Carriage (SAMIPS-NPC)
National Institutes of Health, \$2m; PI: Gill (Boston U); UGA subcontract: \$306K
Robani

Completed

May 2017 – May 2019
Defining the contribution of the microbiome in respiratory pathogen infection and transmission
UGA President's Interdisciplinary Seed Grant Program, \$100K
Tompkins et al.

Grant Funding

Aug 2014 – Aug 2020
X-raying high-dimensional infectious disease data using statistical inference
National Institutes of Health MIDAS Center of Excellence, \$12.5m; PI: Halloran (Fred Hutchinson); UGA subcontract: \$1m
Robani

Aug 2014 – Aug 2020
Forecasting tipping points in emerging and re-emerging infectious diseases
National Institutes of Health, \$2.75m; Subcontract: \$400K
Drake, Robani, Park, Ferrari, Epurneau

Sept 2016 – Aug 2019
Glycoprotein charge and avian influenza virus evolution
National Institutes of Health, \$393K
Tompkins & Robani

Aug 2014 – Aug 2019
Environmental Infection Transmission Analysis
National Institutes of Health, \$2.75m
Eisenberg, Eisenberg, Ionides, Koopman, Robani, Meza

May 2012 – May 2019
Integrating immunology, epidemiology, and evolution to understand and control pertussis transmission
National Institutes of Health, \$1.7m
Robani, King

Sep 2013 – Sep 2014
Influenza Infection & *Streptococcal pneumoniae* Carriage
Pfizer pharmaceuticals, \$100K
Foxman, Aiello, Dawid, Robani

Aug 2010 – Aug 2013
Demographic and behavioral responses to resource shifts and the transmission of rabies in vampire bats
National Science Foundation, \$579,908
Altizer, Robani, Rupprecht

Aug 2009 – July 2013
Population Ecology of Avian Influenza viruses
National Science Foundation, \$498,200
Robani, Drake, Stallknecht

Grant Funding

Aug 2008 – Aug 2013
Evolutionary epidemiology of multi-transmission pathogens in multi-host networks
James S. McDonnell Foundation, \$449,527
Drake, Robani

Aug 2008 – Aug 2012
Research and Policy for Infectious Disease Dynamics (RAPIDD) Program
Interagency Personnel Agreement. National Institutes of Health, Fogarty International Center and Department of Homeland Security, Science & Technology Directorate

Jan 2008 – Apr 2013
Evaluating Candidate Vaccine Technologies Using Computational Models
Bill & Melinda Gates Foundation, \$215,000
Robani

Oct 2010 – Oct 2011
Host response, viral infection and bacterial pneumonia
Pfizer pharmaceuticals, \$100K
Foxman, Robani

Aug 2006 – Oct 2010
Avian Influenza viruses in the environment: what is the probability of human contact and transmission?
Centers for Disease Control & Prevention, \$2,624,965
Stallknecht, Robani, Mead, Cole

Aug 2003 – Aug 2008
New Investigator Award in Global Infectious Diseases
Ellison Medical Foundation, \$200K
Robani

Publications

Books

- 2008 Keeling, M.J. & **Rohani, P.** "Modeling Infectious Diseases". Princeton University Press, Princeton
- 2019 **Rohani, P.** & Scarpino, S.V. (Eds) "Pertussis: Epidemiology, Immunology & Evolution". Oxford University Press, Oxford

Scientific Reports

- 2013 Committee on the Assessment of Studies of Health Outcomes Related to the Recommended Childhood Immunization Schedule. The Childhood Immunization Schedule and Safety. The Institute of Medicine, National Academies

Technical Reports

- 2008 Conlan, A.J.K. & **Rohani, P.** Examining the Precision of the Measles Strategic Planning Tool. Report to the Quantitative Immunization and Vaccines Related Research advisory committee, World Health Organization

Grant Funding

Oct 2004 – Oct 2007
The Ecology of Disease Interference
National Science Foundation, \$357K
Robani

May 2004 – Apr 2007
Disease Interference and Pathogen Communities
National Institutes of Health, \$252K
Robani

Jun 2004 – Aug 2007
On long-term consequences of selfish behavior: a game theoretic approach to host-pathogen co-evolution
National Science Foundation, \$100K
Robani, Keenan

Dec 2003 – Dec 2007
The impact of environmental variation on host-parasite ecology and evolution
Natural Environment Research Council, \$580K
Sait, Robani

Nov 2001 – Nov 2004
Invasion Sequence and the Role of Natural Enemies in Shaping Community Assemblages and Their Dynamics
Natural Environment Research Council, \$500K
Sait, Robani

Manuscripts – in review

- Rane, M., Wakefield, J., **Rohani, P.**, & Halloran, M.E. Association between pertussis vaccination coverage and other socio-demographic factors and pertussis incidence using surveillance data. *Epidemics*.
- Saeidpour, A., Bansal, S. & **Rohani, P.** Dissecting recurrent waves of pertussis across the boroughs of London. *PLoS Comp Biol*.
- Tredennick, A.T., O’Dea, E.B., Ferrari, M.J., Park, A.W., **Rohani, P.** & Drake, J.M. Anticipating disease emergence and elimination: a test of early warning signals using empirically based models. *J R Soc Interface*.
- Domenech de Cellès, M., Wong, A., Guevara, L.A.B. & **Rohani, P.** Estimating the time needed to identify the duration of protection conferred by COVID-19 vaccines. *Proc R Soc B*.
- Gokhale, D., Criado, M., Rowe, D.K., Tompkins, S.M. & **Rohani, P.** Quantifying differences in relationship between within host transmission and innate immunity for SARS-CoV-2 and influenza H3N2. *PLoS Comp Biol*.
- Susswein, Z., Valdano, E., Brett, T.S., **Rohani, P.**, Colizza, V. & Bansal, S. Ignoring spatial heterogeneity in drivers of SARS-CoV-2 transmission in the US will impede sustained elimination. *eLife*.
- Irwin, B., Tomamichel, M., Frischer, M., Hall, R., Davis, A., Bliss, T., **Rohani, P.** & Byers, J.E. Managing the Threat of Infectious Disease for Sustainable Seafood Production. *Frontiers in Ecology and the Environment*.
- Gunning, CE, **Rohani, P.**, Mwananyanda, L, Kwenda, G, Mupila, Z & Gill, C.J. Longitudinal qPCR signals reveal a high burden of asymptomatic and minimally symptomatic *Bordetella pertussis* infections in a birth cohort of African mother/infant pairs. *PLoS ONE*.
- Hempel, K., McDonald, W., Osgood, N.D., Fisman, D., Halperin, S.A., Crowcroft, N., Klein, N., **Rohani, P.** & Doroshenko, A. Evaluation of the Effectiveness of Maternal Immunization against Pertussis in Alberta using Agent-Based Modeling: A Canadian Immunization Research Network Study. *BMC Medicine*.

Papers – published

153. Saeidpour, A. & **Rohani, P.** (2022) Optimal dynamic control for managing Covid-19 epidemic via evolutionary strategy. *Evolution, Medicine, and Public Health*.
152. Hayman, D.T.S., John, R.S. & **Rohani, P.** (2022) Transmission models indicate Ebola virus persistence in primate populations is unlikely. *J. R. Soc. Interface* (in press).
151. Borchering, R.K., Gunning, C.E., Gokhale, D.V., Weedop, K.B., Saeidpour, A., Brett, T.S. & **Rohani, P.** (2021) Novel Influenza B/Victoria viruses alter influenza seasonality in the United States. *PNAS* 118 (5) e2012327118.
150. **Rohani, P.** & Drake, J.M. (2021) Untangling the evolution of dengue viruses. *Science* 374: 941-942. *Perspective*
149. Le. A., King, A.A., Magpantay, F.M.G., Mesbahi, A. & **Rohani, P.** (2021) The impact of infection-derived immunity on disease dynamics. *J. Math. Biol.* 83:61. doi: 10.1007/s00285-021-01681-4.
148. Gill, CJ, Gunning, CE, Macleod, WB., Mwananyanda, L, Thea, D, Pieciak, RC, Kwenda, G, Mupila, Z & **Rohani, P.** (2021) Longitudinal qPCR signals reveal a high burden of asymptomatic and minimally symptomatic *Bordetella pertussis* infections in a birth cohort of African mother/infant pairs. *eLife* 10: e65663.
147. Kostoulas, P. *et al.* (2021) The Epidemic Volatility Index: an early warning tool for epidemics. *Scientific Reports* 11: 23775.
146. Rane, M., **Rohani, P.**, & Halloran, M.E. (2021) Durability of protection after 5 doses of acellular pertussis vaccine among 5-9 year old children in King County, Washington. *Vaccine* 39: 6144-6150.
145. Ghadami, A., Doering, C.R., Drake, J.M. **Rohani, P.** & Epureanu, B.I. (2021) Generic indicators of stability and resilience: Assessing the chance of traffic jams on highways. *IEEE Transactions on Intelligent Transportation Systems* doi:10.1109/TITS.2021.3095897.
144. Li, X., Ghadami, A., Drake, J.M., **Rohani, P.** & Epureanu, B.I. (2021) Feedbacks between global supply chain disruption and the spread of SARS-CoV-2. *Sci Rep* 11: 15450.

143. Rane, M., **Rohani, P.**, & Halloran, M.E. (2021) Role of the Diphtheria-Tetanus-acellular Pertussis vaccine timing and number of doses on age-specific pertussis risk in infants and young children in King County, Washington. *JAMA Network Open* 4(8):e2119118.
142. Drake, J.M., Dahlin, K., **Rohani, P.** & Handel, A. (2021) Five approaches to the suppression of SARS-CoV-2 without intensive social distancing. *Proc R Soc Lond B* 288: 20203074.
141. Brett, T.S. & **Rohani, P.** (2020) Dynamical footprints enable detection of disease emergence. *PLoS Biology* 18(5): e3000697.
140. Brett, T.S. & **Rohani, P.** (2020) Transmission dynamics reveal the impracticality of COVID-19 herd immunity strategies. *PNAS* 202008087.
139. Gunning, CE, Mwananyanda, L, Macleod, WB, Mwale, M, Thea, D, Pieciak, RC, **Rohani, P** & Gill, CJ. (2020) Implementation and adherence of routine pertussis vaccination (DTP) in a low-resource urban birth cohort. *BMJ Open* 10:e041198.
138. Kwuimy, C.A.K., Nazari, F., Jiao, X., **Rohani, P.** & Nataraj, C. (2020) Nonlinear dynamic analysis of an epidemiological model for COVID-19 including public behavior and government action. *Nonlinear Dynamics*. <https://doi.org/10.1007/s11071-020-05815-z>.
137. O'Regan, S.M., O'Dea, E., **Rohani, P.** & Drake, J.M. (2020) Transient indicators of tipping points in infectious diseases. *J. R. Soc. Interface* 17: 20200094.
136. Damron, F.H., Barbiera, M., Dubey, P., Edwards, K.M., Gu, X.-X., Klein, N. P., Lu, K., Mills, K.H.G., Passeti, M., Read, R.C., **Rohani, P.**, Sebo, P. & Harvill, E.T. (2020) Overcoming Waning Immunity in Pertussis Vaccines: Workshop of the National Institute of Allergy and Infectious Diseases. *J. of Immunology* 205: 877-882.
135. Drake, J.M., O'Regan, S.M., Dakos, V., Kéfi, S. & **Rohani, P.** (2020) Alternative Stable States, Tipping Points, and Early Warning Signals of Ecological Transitions. *Theoretical Ecology: Concepts and Applications* (Eds: K. McCann & Gellner); Oxford University Press, Oxford.
134. Brett, T.S., Ajelli, M., Liu, Q., Krauland, M., van Panhuis, W.G., Vespignani, A., Drake, J.M. & **Rohani, P.** (2020) Detecting critical slowing down in high-dimensional epidemiological dynamics. *PLoS Comp Biol*. doi.org/10.1371/journal.pcbi.1007679.
133. Domenech de Celles, M., **Rohani, P.** & King, A.A. (2019) Duration of Immunity and Effectiveness of Diphtheria-Tetanus-Acellular Pertussis Vaccines in Children. *JAMA Pediatrics* . [doi:10.1001/jamapediatrics.2019.0711](https://doi.org/10.1001/jamapediatrics.2019.0711).
132. Magpantay, F., King, A.A. & **Rohani, P.** (2019) Forecasting the transient dynamics of infectious diseases. *J R Soc Interface* doi.org/10.1098/rsif.2019.0151.
131. **Rohani, P.** & Scarpino, S.V. (2019) Introduction to pertussis transmission and epidemiological dynamics. In: *Pertussis: Epidemiology, Immunology & Evolution* (Eds: Rohani & Scarpino) Oxford University Press, Oxford
130. King, A.A. Domenech de Cellès, M., Magpantay, F.M.G. & **Rohani, P.** (2019) Pertussis immunity and the epidemiological impact of adult transmission: statistical evidence from Sweden and Massachusetts. In: *Pertussis: Epidemiology, Immunology & Evolution* (Eds: Rohani & Scarpino) Oxford University Press, Oxford
129. Drake, J.M., Brett, T.S., Ferrari, M.J., Marty, E., Miller, P. B., O'Dea, E., Chen, S., Epureanu, B., Park, A.W., O'Regan, S.M. & **Rohani, P.** (2019) The Statistical Physics of epidemic transitions. *PLoS Comp Biol*. 15(5): e1006917.
128. Noori, N. & **Rohani, P.** Quantifying the Consequences of Measles-Induced Immune Amnesia for Whooping Cough Epidemiology. *Philosophical Transactions of the Royal Society of London B*. 374 doi.org/10.1098/rstb.2018.0270.
127. Domenech de Celles, M., King, A.A. & **Rohani, P.** (2019) Resolving pertussis resurgence and vaccine immunity using mathematical transmission models. *Human Vaccines & Immunotherapeutics* doi.org/10.1080/21645515.2018.1549432.
126. Domenech de Celles, M., King, A.A. & **Rohani, P.** (2018) Response to Comment on "The impact of past vaccination coverage and immunity on pertussis resurgence". *Science Translational Medicine* 10: eaau9627
125. Domenech de Celles, M., Magpantay, F.M.G., King, A.A. & **Rohani, P.** (2018) The impact of past vaccination coverage and immunity on pertussis resurgence. *Science Translational Medicine* 10: eaaj1748.
124. Brett, T.S., O'Dea, E.B., Marty, E., Miller, P.B., Park, A.W., Drake, J.M. & **Rohani, P.** (2018) Anticipating epidemic transitions with imperfect data. *PLoS Comp Biol* 14: e1006204.
123. Bento, A.I., Riolo, M.A., Choi, Y., King, A.A. & **Rohani, P.** (2018) Core pertussis transmission groups in England and Wales: A tale of two eras. *Vaccine* 36: 1160-1166.

122. Noori, N., Drake, J.M. & **Rohani, P.** (2017) Comparative epidemiology of poliomyelitis transmission around the world. *Scientific Reports*. doi:10.1038/s41598-017-17749-5
121. Brett, T.S., Drake, J.M. & **Rohani, P.** (2017) Anticipating the Emergence of Infectious Diseases. *J R Soc Interface*. 14: 20170115.
120. Miller, P., O'Dea, E.B., **Rohani, P.** & Drake, J.M. (2017) Forecasting infectious disease emergence subject to seasonal forcing. *Theoretical Biology and Medical Modelling*.
119. Gill, C.J., **Rohani, P.** & Thea, D.M. (2017) Mucosal immunity, asymptomatic carriage and the resurgence of Bordetella pertussis. *Fl1000Research*.
118. Bento, A.I., King, A.A. & **Rohani, P.** (2017) Maternal pertussis immunization: clinical gains and epidemiological legacy *EuroSurveillance*. in press
117. Bento, A.I. & **Rohani, P.** (2016) Forecasting epidemiological consequences of maternal immunization. *Clinical Infectious Diseases* **63 Supp 4**: S205-S212.
116. Domenech de Celles, M., Magpantay, F.M.G., King, A.A. & **Rohani, P.** (2016) The Pertussis Enigma: Synthesizing Contradictory Evidence. *Proceedings of the Royal Society of London B*. **283**: 20152309
115. Blackwood, J.C., Cummings, D.A.T., Broutin, H., Iamsirithaworn, S. & **Rohani, P.** (2016) Examining the transmission consequences of pertussis vaccines using age-specific incidence patterns in Thailand. *Epidemics*. **16**: 1-7.
114. Kramer, A.M., Pulliam, J.T., Alexander, L.W., Park, A.W., **Rohani, P.** & Drake, J.M. (2016) Spatial spread of the West Africa Ebola epidemic. *Royal Society Open Science* 3: 160294.
113. Vinson, J.E., Drake, J.M., **Rohani, P.** & Park, A.W. (2016) The potential for sexual transmission to compromise control of Ebola virus outbreaks. *Biology letters*, **12**: 584-587.
112. Martinez-Bakker, M., King, A.A., & **Rohani, P.** (2015) Unraveling the transmission ecology of polio. *PLoS Biology*. 13(6): e1002172
111. Shrestha, S., Foxman, B., Berus, J., van Panhuis, W.G., Weinberger, D.M., Steiner, C., Viboud, C. & **Rohani, P.** (2015) The role of influenza in the epidemiology of pneumonia. *Nature Scientific Reports*. **5**: 15314.
110. King, A.A., Domenech de Celles, M., Magpantay, F.M.G. & **Rohani, P.** (2015) Avoidable errors in the modeling of outbreaks of emerging pathogens, with special reference to Ebola *Proceedings of the Royal Society of London B*. **282**: 20150347.
109. Magpantay, F.M.G., Domenech de Celles, M., **Rohani, P.** & King, A.A. (2015) Pertussis immunity and epidemiology: mode and duration of vaccine-induced immunity. *Parasitology*. **143**: 835 - 849.
108. Handel, A. & **Rohani, P.** (2015) Crossing the scale from within-host infection dynamics to transmission fitness: A discussion of current assumptions and knowledge. *Philosophical Transactions of the Royal Society of London B*. **370** 20140302
107. Riolo, M.A. & **Rohani, P.** (2015) Combating Pertussis Resurgence: One Booster Vaccination Schedule Doesn't Fit All. *Proceedings of the National Academy of Sciences USA* doi/10.1073/pnas.1415573112
106. Riolo, M.A., **Rohani, P.** & Hunter, M.D. (2015) Local variation in plant quality influences large-scale population dynamics. *Oikos* **124** 1160-1170.
105. Magpantay, F.M.G. & **Rohani, P.** (2015) Pertussis epidemiology in the United States during the early vaccine era. *American Journal of Epidemiology* **181** 921-31.
104. Roche, B., Drake, J.M., Brown, J., Stallknecht, D.E., Bedford, T. & **Rohani, P.** (2014) Adaptive evolution and environmental durability jointly structure phylogenetic patterns in avian influenza viruses. *PLoS Biology* **12** e1001931.
103. Martinez-Bakker, M., Bakker, K.M., King, A.A. & **Rohani, P.** (2014) Human Birth Seasonality: Latitudinal Gradient and Interplay with Childhood Disease Dynamics. *Proceedings of the Royal Society of London B* **281** 20132438.
102. Handel, A., Lebarbenchon, C., Stallknecht, D.E. & **Rohani, P.** (2014) Trade-offs within and between scales: Environmental persistence and in-host fitness of avian influenza viruses. *Proceedings of the Royal Society of London B* **281** 20133051.
101. Magpantay, F.G., Riolo, M.A., Domenech de Celles, M., King, A.A. & **Rohani, P.** (2014) Population-level models of imperfect vaccines. *SIAM Journal on Applied Mathematics*. **74** 1810-1830.

100. Brown, V.L., Drake, J.M., Stallknecht, D.E., Brown, J.D., Pedersen, K. & **Rohani, P.** (2014) Neutrality, Cross-Immunity and Subtype Dominance in Avian Influenza Viruses. *PLoS ONE* **9** e88817.
99. Domenech de Celles, M., Riolo, M., Magpantay, F.M.G., **Rohani, P.** & King, A.A. (2014) Acellular Pertussis Vaccines and Herd Immunity: The Epidemiological Evidence. *Proceeding of the National Academy of Sciences USA* 10.1073/pnas.1323795111.
98. Jackson, D. & **Rohani, P.** (2014) Perplexities of pertussis: recent global epidemiological trends and their potential causes. *Epidemiology & Infection* **42** 672-684.
97. Barton, H., **Rohani, P.**, Stallknecht, D., Brown, J. & Drake, J.M. (2014) Subtype diversity and reassortment potential for co-circulating avian influenza viruses at a diversity hotspot. *Journal of Animal Ecology* **83** 566-575.
96. Blackwood, J.C., Cummings, D.A.T., Broutin, H., Iamsirithaworn, S. & **Rohani, P.** (2013) Deciphering the impacts of vaccination and immunity on pertussis epidemiology in Thailand. *Proceeding of the National Academy of Sciences USA* **110** 9595-9600.
95. Blackwood, J.C., Streicker, D., Altizer, S.A. & **Rohani, P.** (2013) Immigration drives rabies persistence within vampire bat colonies. *Proceeding of the National Academy of Sciences USA* doi: 10.1073/pnas.1308817110.
94. Riolo, M.A., King, A.A. & **Rohani, P.** (2013) Can vaccine legacy explain the British pertussis resurgence? *Vaccine* **31** 5903-8.
93. Shrestha, S., Foxman, B., Weinberger, D.M., Steiner, C., Viboud, C. & **Rohani, P.** (2013) Unmasking the interaction between influenza and pneumococcal pneumonia using incidence data. *Science Translational Medicine* **5** 191ra84.
92. Shrestha, S., Foxman, B., Dawid, S. Aiello, A.E, Davis, B.M., Berus, J. & **Rohani, P.** (2013) Time and dose-dependent risk of pneumococcal pneumonia following influenza: A model for within-host interaction between influenza and Streptococcus pneumoniae. *Journal of the Royal Society Interface* **10** 10.1098/rsif.2013.0233.
91. Brown, V.L., Drake, J.M., Stallknecht, D.E., Brown, J.D., Pedersen, K. & **Rohani, P.** (2013) Dissecting a wildlife disease hotspot: the impact of multiple host species, environmental transmission and seasonality in migration, breeding and mortality. *Journal of the Royal Society Interface* **10** 20120804.
90. Pepin, K.M. *et al.* (2013) Using quantitative disease dynamics as a tool for guiding response to avian influenza in USA poultry. *Preventative Veterinary Medicine* **113** 376-97.
89. Handel, A., Brown J.D., Stallknecht, D.E. & **Rohani, P.** (2013) A multi-scale analysis of influenza A virus fitness trade-offs due to temperature-dependent virus persistence. *PLoS Computational Biology* **9** e1002989.
88. Roche, B. , **Rohani, P.**, Dobson, A.P. & Guegan, J.-F. (2013) Community ecology and epidemiology of infectious diseases: a new framework to study pathogen transmission through host community species. *American Naturalist* **181** 1-11.
87. Goldwyn, E.E. & **Rohani, P.** (2013) Pertussis Reporting Bias and its Public Health Implications. *Journal of Public Health Management & Practice* **19** 379-82.
86. Reich, N.G., Shrestha, S., Aaron A. King, **Rohani, P.**, Justin Lessler, Siripen Kalayanarooj, In-Kyu Yoon, Robert V. Gibbons, Donald S. Burke & Derek A. T. Cummings (2013) Interactions between serotypes of dengue highlight epidemiological impact of cross-immunity. *Journal of the Royal Society Interface* **10** 20130414.
85. Brown, V.L. & **Rohani, P.** (2012) The consequences of climate change at an avian influenza 'hotspot?'. *Biology Letters* **8** 1036-1039.
84. Lavine, J.S. & **Rohani, P.** (2012) Resolving pertussis immunity and vaccine efficiency using incidence time series. *Expert Review of Vaccines* **11** 1319-1329.
83. Choisy, M. & **Rohani, P.** (2012) Evolving Spatial Epidemiology of Pertussis in Continental USA. *Proceedings of the Royal Society of London B* **279** 4574-4581.
82. Blackwood, J.C., Cummings, D.A.T., Broutin, H., Iamsirithaworn, S. & **Rohani, P.** (2012) The population ecology of infectious diseases: pertussis in Thailand as a case study. *Parasitology* **139** 1888-1898.
81. Streicker, D.G., Recuenco, S., Valderrama, W., Gomez Benavides, J. Vargas, I., Pacheco, V., Condori, E., Montgomery, J., Rupprecht, C.E., **Rohani, P.** & Altizer, S.A. (2012) Ecological and Anthropogenic Drivers of Rabies Exposure in Vampire Bats: Implications for Transmission and Control. *Proceedings of the Royal Society of London B* **279** 3384-3392.
80. Roche, B., Dobson, A.P., Guegan, J.-F. & **Rohani, P.** (2012) Community ecology and epidemiology of infectious diseases: a new framework to study pathogen transmission through host community species. *Philosophical Transactions of the Royal Society of London B* **367** 2807-2813.

79. WHO-VMI Dengue Vaccine Modeling Group (2012) Assessing the Potential of a Candidate Dengue Vaccine with Mathematical Modeling. *PLoS Neglected Tropical Diseases* **6** e1450.
78. Shrestha, S., King, A.A. & **Rohani, P.** (2011) Statistical inference for multi-pathogen systems. *PLoS Comp. Biol.* **7** e1002135.
77. **Rohani, P.** & Drake, J.M. (2011) The decline and resurgence of pertussis in the US. *Epidemics* **3** 183-188.
76. Davis, B.M., Aiello, A.E., Dawid, S., **Rohani, P.**, Shrestha, S. & Foxman, B. (2011) Influenza and community-acquired pneumonia interactions: the impact of order and time of infection on population patterns. *American Journal of Epidemiology* **175** 363-367.
75. Roche, B., Drake, J.M. & **Rohani, P.** (2011) The curse of the pharaoh revisited: virulence polymorphism in environmentally transmitted pathogens. *Ecology Letters* **14** 569-575.
74. Roche, B., Drake, J.M. & **Rohani, P.** (2011) An Agent-Based Model to study the epidemiological and evolutionary dynamics of Influenza viruses. *BMC Bioinformatics* **12** 87.
73. **Rohani, P.**, Zhong, X. & King, A.A. (2010) Contact structure explains shifting epidemiology of pertussis. *Science* **330** 982-985.
72. **Rohani, P.** & King, A.A. (2010) Never mind the length, feel the quality: The Impact of Long-term epidemiological data sets on theory, application and policy. *Trends in Ecology & Evolution* **25** 611-618.
71. White, S.M., **Rohani, P.** & Sait, S.M. (2010) Modelling the fitness costs of transgenesis in SIT approaches. *Journal of Applied Ecology* **47** 1329-1339.
70. Broutin, H., Viboud, C., Grenfell, B.T., Miller, M.A. & **Rohani, P.** (2010) Impact of vaccination and birth rate on the epidemiology of Pertussis: a Comparative Study in 64 countries. *Proceedings of the Royal Society of London B* **277** 3239-3245.
69. Breban, R., Drake, J.M. & **Rohani, P.** (2010) A general multi-strain model with environmental transmission: Invasion conditions for the disease-free and endemic states. *Journal of Theoretical Biology* **264** 729-736.
68. Roche, B. & **Rohani, P.** (2010) Environmental Transmission Scrambles Coexistence Patterns of Avian Influenza Viruses. *Epidemics* **2** 92-98.
67. Bonds, M.H., Keenan, D.C., **Rohani, P.** & Sachs, J.D. (2010) Poverty Trap Driven by Feedback Between Economics and Ecology of Infectious Diseases. *Proceedings of the Royal Society of London B* **277** 1185-1192.
66. Conlan, A.J., **Rohani, P.**, Keeling, M.J., Lloyd, A. & Grenfell, B.T. (2010) Balancing the Impact of Deterministic and Stochastic Dynamics on the Persistence of Measles. *Journal of the Royal Society Interface* **7** 623-640.
65. Mantilla-Beniers, N.B., Bjornstad, O.N., Grenfell, B.T. & **Rohani, P.** (2010) Decreasing stochasticity through enhanced seasonality in measles epidemics. *Journal of the Royal Society Interface* **7** 727-739.
64. **Rohani, P.** (2009) The link between dengue incidence and El Nino Southern Oscillation. *PLoS Medicine* **6** e1000185.
63. **Rohani, P.**, Breban, R. Stallknecht, D.E. & Drake, J.M. (2009) Environmental Transmission of Low Pathogenicity Avian Influenza Viruses and its Implications for Pathogen Invasion. *Proceeding of the National Academy of Sciences USA* **106** 10365-9.
62. Wearing, H.J. & **Rohani, P.** (2009) Dynamical Implications of waning immunity for pertussis epidemiology. *PLoS Pathogens* **5** e1000647.
61. Bonds, M.H. & **Rohani, P.** (2009) Reducing Fertility More Effective than Vaccinating for Global Health and Economic Development; A Simple Ecological Framework. *Journal of the Royal Society Interface* **7** 541-547.
60. Breban, R., Drake, J.M., Stallknecht, D.E. & **Rohani, P.** (2009) The role of environmental transmission in recurrent avian influenza epidemics. *PLoS Computational Biology* **5** e1000346.
59. Niogret, J., Sait, S.M. & **Rohani, P.** (2009) Parasitism and constitutive defense costs on host life history traits in the parasitoid-host interaction *Venturia canescens* - *Plodia interpunctella*. *Ecological Entomology* **34** 763-771.
58. Nguyen, H.T.H. & **Rohani, P.** (2008) Noise, nonlinearity and seasonality: the epidemics of whooping cough revisited. *Journal of the Royal Society Interface* **5** 403-413.
57. Hall, S.R., Brown, J.M., Cáceres, C.E., Chase, J.M., Dobson, A.P., Holt, R.D., Jones, C.G., Lafferty, K.D., McCauley, D., Randolph, S.E. & **Rohani, P.** (2008) Is infectious disease just another type of consumer-resource interaction? In: *Infectious Disease Ecology* (Eds: Osfeld, Keesing & Eviner), Princeton University Press.

56. **Rohani, P.**, Wearing, H.J., Vasco, D.A. & Huang, Y. (2008) Understanding Host-Multi-Pathogen Systems: The Interaction Between Ecology and Immunology. In: Infectious Disease Ecology (Eds: Osfeld, Keesing & Eviner), Princeton University Press.
55. Cameron, T.C., Wearing, H.J., **Rohani, P.** & Sait, S.M. (2007) Two species asymmetric competition: Effects of age structure on intra- and inter-specific interactions. *Journal of Animal Ecology* **76** 83-93.
54. Vasco, D.A., Wearing, H.J. & **Rohani, P.** (2007) Tracking the Dynamics of Pathogen Interactions: Modeling Ecological and Immune-Mediated Processes in a Two-Pathogen Single-Host System. *Journal of Theoretical Biology* **245** 9-25.
53. White, S.M., Sait, S.M. & **Rohani, P.** (2009) Exploring the Population Dynamic Consequences of Parasitised-Larval Competition in Stage-Structured Host-Parasitoid. *Oikos*.
52. Choisy, M., Guegan, J.F. & **Rohani, P.** (2007) Mathematical modelling of infectious disease dynamics. In: Encyclopedia of Infectious Diseases (Ed: Tibayrac), Wiley Press.
51. Broutin, H., Mantilla-Beniers N.B. & **Rohani, P.** (2007) Ecology of infectious disease dynamics. In: Encyclopedia of Infectious Diseases (Ed: Tibayrac), Wiley Press.
50. Wearing, H.J. & **Rohani, P.** (2006) The ecological and immunological determinants of Dengue epidemics. *Proceeding of the National Academy of Sciences USA* **103** 11802-11807.
49. Choisy, M. & **Rohani, P.** (2006) Harvesting can increase severity of wildlife disease epidemics. *Proceedings of the Royal Society of London B* **273** 2025-2034.
48. Altizer, S., Dobson, A.P., Hosseini, P., Hudson, P.J., Pascual, M. & **Rohani, P.** (2006) Seasonality and population dynamics: infectious diseases as case studies. *Ecology Letters* **9** 467-484.
47. Huang, Y. & **Rohani, P.** (2006) Age-structured effects determine interference between childhood infections. *Proceedings of the Royal Society of London B* **273** 1229-1237.
46. Choisy, M., Guegan, J.F. & **Rohani, P.** (2006) Resonance effects and the dynamics of infectious diseases. *Physica D* **223** 26-35.
45. Reader, T., Cornell, S.J. & **Rohani, P.** (2006) Aggregation, intraguild interactions and the coexistence of competitors on small ephemeral patches. *Oikos* **115** 321-333.
44. Alexander, M.E., Moghadas, S.M., **Rohani, P.** & Summers, A.R. (2006) Modelling the effect of a booster vaccination on disease epidemiology. *Journal of Mathematical Biology* **52** 290-306.
43. Bonds, M.H., Keenan, D.C., Leidner, A.J. & **Rohani, P.** (2005) Infectious Diseases Can Induce Greater Sociality. *Evolution* **59** 1859-1866.
42. Wearing, H.J., **Rohani, P.** & Keeling, M.J. (2005) Appropriate Models for the Management of Infectious Diseases. *PLoS Medicine* **2** e174.
41. Huang, Y. & **Rohani, P.** (2005) The Dynamical Implications of Disease Interference: Correlations and Coexistence. *Theoretical Population Biology* **68** 205-215.
40. Cameron, T.C., Wearing, H.J., **Rohani, P.** & Sait, S.M. (2005) The sublethal effects of parasitoid attack mediate intraspecific competition. *Oikos* **110** 620-628.
39. Broutin, H., Mantilla-Beniers, N.B., Simondon, F., Aaby, P., Grenfell, B.T. Guégan, J.-F. & **Rohani, P.** (2005) Epidemiological impact of vaccination on the dynamics of two childhood diseases in rural Senegal. *Microbes & Infection* **7** 593-599.
38. Coulson, T.N., **Rohani, P.** & Pascual, M. (2004) Skeletons, noise and population growth: the end of an old debate? *Trends in Ecology & Evolution* **19** 360-364.
37. Wearing, H.J., Cameron, T., Sait, S.M. & **Rohani, P.** (2004) Cycle period and the structure of host-parasitoid assemblages. *Journal of Animal Ecology* **7** 706-722.
36. Wearing, H.J., **Rohani, P.**, Cameron, T. & Sait, S.M. (2004) The dynamical consequences of developmental variability and demographic stochasticity. *American Naturalist* **164** 543-558.
35. **Rohani, P.**, Miramontes, O. & Keeling, M.J. (2004) The Colour of Short Ecological Time-Series. *Mathematical Medicine & Biology* **21** 63-72.

34. Broutin, H., **Rohani, P.**, Guegan, J.F., Grenfell, B.T. & Simondon, F. (2004) Loss of immunity to pertussis in a rural community. *Vaccine* **22** 594-596.
33. **Rohani, P.**, Wearing, H.J., Cameron, T. & Sait, S.M. (2003) Natural Enemy Specialisation and the Period of Fluctuations. *Ecology Letters* **6** 381-384.
32. **Rohani, P.**, Green, C.J., Mantilla-Beniers, N.B. & Grenfell, B.T. (2003) Ecological Interference Among Fatal Infections. *Nature* **422** 885-888.
31. Miramontes, O. & **Rohani, P.** (2002) Estimating $1/f^\alpha$ scaling exponent in short time-series. *Physica D* **166** 147-154.
30. **Rohani, P.**, Keeling, M.J., and Grenfell, B.T. (2002) The Interplay Between Noise and Determinism in Childhood Diseases. *American Naturalist* **159** 469-481.
29. Keeling, M.J. & **Rohani, P.** (2002) Spatial Coupling in Epidemiology: A Mechanistic Approach. *Ecology Letters* **5** 20-29.
28. Keeling, M.J., **Rohani, P.** & Grenfell, B.T. (2001) Seasonally Forced Disease Dynamics Explained by Switching Between Attractors. *Physica D* **148** 317-335.
27. Earn, D.J.D., Levin, S.A. & **Rohani, P.** (2000) Coherence and Conservation. *Science* **290** 1360-1364.
26. **Rohani, P.**, Earn, D.J.D. & Grenfell, B.T. (2000) The Impact of Immunisation on Pertussis Transmission in England & Wales. *Lancet* **355** 285-286.
25. **Rohani, P.**, Earn, D.J.D. & Grenfell, B.T. (2000) Immunisation and Pertussis Transmission in England & Wales. *Lancet* **355** 1553-1554.
24. Earn, D.J.D., **Rohani, P.**, Bolker, B.M. & Grenfell, B.T. (2000) A Simple Model for Complex Dynamical Transitions in Epidemics. *Science* **287** 667-670.
23. Ruxton, G.D. & **Rohani, P.** (1999) Fitness Dependent Dispersal in Metapopulations and Its Consequences for Persistence and Synchrony. *Journal of Animal Ecology* **67** 530-539.
22. **Rohani, P.**, Earn, D.J.D. & Grenfell, B.T. (1999) Opposite Patterns of Synchrony in Sympatric Disease Metapopulations. *Science* **286** 968-971.
21. **Rohani, P.** & Ruxton, G.D. (1999) Diffusion-induced Instabilities in Host-Parasitoid Metapopulations. *Theoretical Population Biology* **55** 23-36.
20. **Rohani, P.** & Ruxton, G.D. (1999) Dispersal and Metapopulation Stability. *IMA Journal of Mathematics and its Applications in Medicine & Biology* **16** 297-306.
19. Earn, D.J.D. & **Rohani, P.** (1999) Complex Dynamics in Ecology. *Trends in Ecology and Evolution* **14** 43-44.
18. **Rohani, P.**, Earn, D.J.D., Finkenstadt, B.F. & Grenfell, B.T. (1998) Population Dynamic Interference Among Childhood Diseases. *Proceedings of the Royal Society of London B* **265** 2033-2041.
17. Ruxton, G.D. & **Rohani, P.** (1998) Population Floors and Persistence of Chaos in Population Models. *Theoretical Population Biology* **53** 175-183.
16. Miramontes, O. & **Rohani, P.** (1998) Intrinsically Generated Coloured Noise in Laboratory Insect Populations. *Proceedings of the Royal Society of London B* **265** 785-792.
15. Earn, D.J.D., **Rohani, P.** & Grenfell, B.T. (1998) Synchronicity in Ecology and Epidemiology. *Proceedings of the Royal Society of London B* **265** 7-10.
14. Savill, N., **Rohani, P.** & Hogeweg, P. (1997) Evolutionary Consequences of Patterns Interacting Across Spatial and Temporal Scales. *Journal of Theoretical Biology* **188** 11-20.
13. **Rohani, P.**, Lewis, T.J., Grunbaum, D. & Ruxton, G.D. (1997) Spatial Self-Organisation in Ecology: Pretty Patterns or Robust Reality? *Trends in Ecology and Evolution* **12** 647-650.
12. **Rohani, P.** & Earn, D.J.D. (1997) Chaos in a Cup of Flour. *Trends in Ecology and Evolution* **12** 171.
11. **Rohani, P.**, May, R.M. & Hassell, M.P. (1996) Metapopulations and Local Stability: the Effects of Spatial Structure. *Journal of Theoretical Biology* **181** 97-109.

10. Harwood, J. & **Rohani, P.** (1996) ?The Population Biology of Marine Mammals?. In: *Frontiers of Population Biology* (Eds: R.B. Floyd, A.W. Sheppard, P.J. De Barro). CSIRO Publications.
9. **Rohani, P.** & Miramontes, O. (1996) Chaos or Quasiperiodicity in Laboratory Insect Populations. *Journal of Animal Ecology* **65** 847-849.
8. **Rohani, P.**, Hammond, P.S. & Grunbaum, D. (1996) Exploring the Consequences of Global Change for Southern Elephant Seal Populations. Document SC/M96/CC29. *International Whaling Commission Symposium on Climate Change and Cetaceans*, Hawaii, March 1996.
7. Ruxton, G.D. & **Rohani, P.** (1996) The Consequences of Stochasticity for Self-Organised Spatial Patterns, Persistence and Coexistence in Spatially Extended Population Models. *Proceedings of the Royal Society of London B* **263** 625-631.
6. **Rohani, P.** & Miramontes, O. (1995) Host Parasitoid Metapopulations: the Consequences of Parasitoid Aggregation on Spatial Dynamics and Searching Efficiency. *Proceedings of the Royal Society of London B* **260** 335-342.
5. **Rohani, P.** & Miramontes, O. (1995) Immigration and the Persistence of Chaos in Population Models. *Journal of Theoretical Biology* **175** 203-206.
4. **Rohani, P.** & Ruxton, G.D. (1995) Spatial Dynamics and Chaos. *Trends in Ecology and Evolution* **10** 491.
3. Hassell, M.P., Miramontes, O., **Rohani, P.** & May, R.M. (1995) Appropriate Formulation for Dispersal in Spatially Structured Models. *Journal of Animal Ecology* **65** 662-664.
2. **Rohani, P.**, Miramontes, O. & Hassell, M.P. (1994) Quasiperiodicity and Chaos in Population Models. *Proceedings of the Royal Society of London B* **258** 17-22.
1. **Rohani, P.**, Godfray, H.C.J. & Hassell, M.P. (1994) Aggregation and the Dynamics of Host Parasitoid Systems: A Discrete Generation Model with Within Generation Redistribution. *American Naturalist* **144** 491-509.

Mentoring

Graduate Students

University of Georgia

2019 – 2024 Bodie Weedop (PhD, Bioinformatics)

2017 – 2022 Deven Gokhale (PhD, Ecology)

2006 – 2011 Daniel Streicker (PhD, Ecology) – Sir Henry Dale Wellcome Trust Fellow, University of Glasgow, UK

2005 – 2007 Hanh Nguyen (MSc, Ecology) – Director, NGO, Hanoi, Vietnam

2003 – 2006 Matthew Bonds (PhD, Ecology) – Assistant Professor, Harvard University, USA

University of Michigan

2010 – 2015 Micaela Martinez-Bakker (PhD, Ecology & Evolutionary Biology) – Assistant Professor, Columbia University, USA

2011 – 2014 Maria Riolo (PhD, Applied & Interdisciplinary Mathematics) – Omidyar Fellow, Santa Fe Institute, USA

University of Cambridge

2000 – 2004 Natalia Mantilla-Beniers (PhD, Zoology) – Professor, UNAM, Mexico

1998 – 2001 Tom Reader (PhD, Zoology) – Professor, University of Nottingham, UK

Postdocs

University of Georgia

2019 – present Christian Gunning

2017 – present Arash Saeidpour

2015 – present Toby Brett

- UGA's Postdoctoral Research Award 2020

2019 – 2020 Rebecca Borchering (Postdoc, Penn St, USA)

2015 – 2019 Ana Bento (Assistant Professor, Indiana University, USA)

2015 – 2019 Jasmina Luczo (Scientist, Australian Centre for Disease Preparedness, CSIRO)

2015 – 2018 Navideh Noori (Staff Scientist, Institute for Disease Modeling, USA)

2016 – 2017 Afshin Mesbahi (Research Associate, University of Washington, USA)

2015 – 2016 Diego Moreno (Data Scientist, Biotech company, Spain)

2007 – 2009 Jerome Niogret (Scientist, USDA, Florida, USA)

2007 – 2009 Romulus Breban (Faculty, Institut Pasteur, Paris, France)

2005 – 2008 Steven White (Faculty, University of Oxford, UK)

2004 – 2008 Dan Vasco (Research Associate, University of Luxembourg, Luxembourg)

2005 – 2006 Marc Choisy (Scientist, IRD, Vietnam)

Mentoring

2001 – 2007 Helen Wearing (Professor, University of New Mexico, USA)

2003 – 2005 Yunxin Huang (Professor, Hubei University, China)

University of Michigan

2013 – 2015 Felicia Magpantay (Assistant Professor, Queen's University, Canada)

2013 – 2015 Matthieu Domenech de Celles (Group Leader, Max Planck Institute, Berlin, Germany)

2012 – 2013 Doug Jackson (Research Scientist, USGS, USA)

2009 – 2013 Sourya Shrestha (Research Associate, Johns Hopkins University, USA)

2010 – 2013 Vicki Brown (Research Scientist, University of South Wales, UK)

2011 – 2012 Jijun Zhao (Professor, Qingdao University, China)

2010 – 2013 Julie Blackwood (Associate Professor, Williams College, USA)

2012 – 2014 Daniel Streicker (Wellcome Trust Research Fellow, University of Glasgow, UK)

2010 – 2011 Eli Goldwyn (Associate Professor, University of Portland, USA)

2008 – 2010 Benjamin Roche (Group Leader, IRD, Montpellier, France)

2009 – 2010 Xue Zhong (Research Instructor in Medicine, Vanderbilt University, USA)

Faculty Mentoring Committees

Justin Bahl (Epidemiology, UGA), Liliana Salvador (Infectious Diseases, UGA)

Undergraduate Research Assistants

Nick Lupien (Computer Science, UGA), Andrew Leidner (Economics, UGA), Samantha Burton (Ecology, UGA), Mark Milby (Ecology, UGA), Emily Carter (Ecology, UGA), Sheena Zhang (Biology, UGA), Micaela Martinez-Bakker (EEB, Michigan), Joshua Berus (Biology, Michigan), Monica Sangal (EEB, Michigan).

Graduate Advisory Committees

Sandy Helms (Ecology, UGA), Lucas Wilkinson (Ecology, UGA), Tom Cameron (Biology, University of Leeds), Caralyn Zehnder (Ecology, UGA), Sonia Hernandez (Ecology, UGA), Vanessa Corby (Genetics, UGA), Chih-Horng Kuo (Genetics, UGA), Bradd Haley (Environmental Health, UGA), Cat Bradley (Ecology, UGA), JD Willson (SREL, UGA), Doug Jackson (EEB, Michigan), Jennifer Knapp (Epi, Michigan), Andres Baeza (EEB, Michigan), Clarisse Bettancourt (EEB, Michigan), Paul Glaum (EEB, Michigan), Paige Miller (UGA), Madhura Rane (Epi, Washington), Joseph Hicks (Infectious Diseases, UGA), Xueting Qiu (Infectious Diseases, UGA), Zachary Petty (Institute of Bioinformatics, UGA), Amy Siceloff (Microbiology, UGA).

Teaching

University of Georgia

- ECOL 3820 *Evolutionary Medicine* (2018–2021)
ECOL 4150/6150 *Population Biology of Infectious Diseases* (2018)
ECOL 8910 *Multiscale Modeling* (2017)
ECOL 8520 *Fundamentals of Infectious Disease Ecology* (2017)
GRSC 8020 *Critical Reading of the Primary Scientific Literature* (2016)
ECOL 8325 *Modeling Ecological Populations* (2003–7)
ECOL 8310 *Population & Community Ecology* (2008)
ECOL 8990 *Ecology of Infectious Diseases* (2006, 2008)
ECOL 4650 *Foundations of Ecology* (2004, 2005)
ECOL 4900 *Senior Seminar* (2005)

University of Michigan

- EEB 315 *Ecology & Evolution of Infectious Diseases* (2010, 2011, 2013, 2014, 2015)
CMPLXSYS 430 *Modeling Infectious Diseases* (2010, 2011, 2013, 2014, 2015)

Extramural

- Summer School in Statistics & Modeling in Infectious Diseases, University of Washington *Mathematical Models of Infectious Diseases* (2009–2019)
International Center for Theoretical Physics, Trieste, Italy *Modeling Infectious Diseases* (2000, 2013)
Nelson Mandela African Institution of Science & Technology, Arusha, Tanzania *Modeling Infectious Diseases* (2011)

Professional Service

Society Leadership

- Chair, Steering Committee, National Institutes of Health Modeling Infectious Disease Agent Study Network (2017–2019)

Editorial Boards

- American Naturalist (2007–2019)
- Ecology Letters (2017–present)
- Evolution, Medicine and Public Health (2018–present)
- Proceedings of the Royal Society of London - Biological Sciences (2012–2016)

Guest Academic Editor

PNAS, PLoS Biology, PLoS Medicine, PLoS Computational Biology

Professional Service

External Book Reviewer

Cambridge University Press, Springer Verlag, University of Chicago Press, Princeton University Press Grant Review

Panel Member

- National Science Foundation
- Population & Community Ecology (2007, 2009, 2015)
 - Ecology & Evolutionary Processes (2010, 2012)
- National Institutes of Health
- Infectious, Reproductive, Asthma and Pulmonary Conditions (2015, 2016, 2017–2021)
 - MIDAS project grants (2008)
 - Clinical Research and Field Studies of Infectious Diseases (2011)
 - Modeling & Analysis of Biological Systems (2014, 2017)
 - Special Emphasis Panel (2015, 2016)
- Netherlands Organisation for Scientific Research (2016)

Ad Hoc Proposal Reviewer

The Royal Society, Biotechnology and Biological Sciences Research Council (UK), Natural Environment Research Council (UK), National Science Foundation, Wellcome Trust (UK), Medical Research Council (UK), European Research Council, Trinity College (Cambridge, UK) and Emmanuel College (Cambridge, UK)

Advisory Board Member

- Center for Population Health Research, University of Montana (2020–present)
- Center for Vaccines & Immunology, University of Georgia (2019–present)
- Center for the Ecology of Infectious Diseases, University of Georgia (2017–2019)
- Chair, Modeling Infectious Disease Agent Study Network Executive Committee (2017–2019)
- Summer Institute on Statistics and Modeling in Infectious Diseases, University of Washington, USA (2011–present)
- Board of Scientific Counsellors, National Center for Zoonotic, Vector-Borne and Enteric Diseases, CDC (2007–2008)

Ad Hoc Reviewer & Nominator

MacArthur Foundation Fellows Program (2009, 2014, 2016, 2017, 2020)

Panel Member

Institute of Medicine committee to review health and safety outcomes of immunization schedule (2012–2013)

Professional Service

Conferences/Symposia Organized

- ESA symposium *The death of determinism? The role of noise and nonlinearity in ecological theory* Savannah, GA 2003 (Pascual, Rohani)
- Ecology & Evolution of Infectious Diseases Conference, Athens, GA 2009 (Altizer, Rohani); Ann Arbor, MI 2012 (Rohani, King)

PhD Theses Examined

Lisa White, University of Warwick 7/12/00

Deborah Long, University of Cambridge 14/7/01

Andrew Conlan, University of Cambridge 10/12/06

Invited Conference Presentations

- **International Conference on Mathematical Biology**, Alcala, Spain; Sept 1998
- **From Cells to Continua: Modelling Space in Biology**, Edinburgh; Mar 1999
- **Workshop on Modelling Whooping Cough**, Barcelona; May 2001
- **SIAM conference on Life Sciences**, Boston; Mar 2002
- **IUBS Symposium on Integrative Biology**, UNESCO, Paris; May 2002
- **DIMACS workshop on epidemiology**, Rutgers University; July 2002
- **Workshop on Modelling Whooping Cough** New York City; Oct 2002
- **Journees de l'IFB**, Tours, France; Dec 2002
- **Ecology of Infectious Diseases Symposium**, AAAS meeting, Denver; Feb 2003
- **Seasonality of Infectious Diseases working group**, NCEAS, Santa Barbara, Oct 2003
- **Networks and the Dynamics of Disease Transmission**, Minnesota, Nov 2003
- **Disease Ecology and Evolution**, EEID meeting, Emory, May 2004
- **Biodiversity: Science & Governance**, Paris Jan 2005
- **Mathematics of Infectious Diseases**, AAAS meeting, Washington DC, Feb 2005
- **Ecology of Infectious Diseases**, Cary Conference, Institute of Ecosystem Studies, Apr 2005
- **Viral Paradigms**, Georgia Tech, Jan 2008
- **You say pertussis, I say petussis**, Transmission 2008, Warwick, UK July 2008

Professional Service

- **Complex and stochastic epidemic dynamics**, SIAM, Montreal Aug 2008
- **Computational Problems in Epidemiology** ISIF, Turin, Italy Oct 2008
- **Epidemiology of Pertussis**, Centres for Disease Control & Prevention, Dec 2008
- **Transient dynamics in Infectious Diseases** ESA, Milwaukee, Aug 2008
- **Ecology of Avian Influenza Viruses** Immunobiology of Influenza, UGA Jul 2009
- **Hierarchical dynamics of pertussis** MAC-EPID symposium, UMich, Sept 2009
- **Modeling dengue serotype dynamics**, Duke-NUS EID, Singapore, Dec 2009
- **Michigan-Santa Fe Institute Conference**, Ann Arbor, Oct 2010
- **Disease Invasion Impacts on Biodiversity symposium**, Zoological Society of London, Nov 2010
- **Plenary: MIDAS network meeting**, Alexandria, VA, Nov 2012
- **U-M American Medical Student Association**, Ann Arbor, Oct 2013
- **Complexity and multi-discipline Science**, UNAM, Mexico City, Nov 2013
- **Vaccines and evolution**, Annecy, France, Nov 2013
- **Keystone Symposium on Coinfection**, Ouro Preto, Brazil, Mar 2015
- **Conference Mathematical & Computational Epidemiology**, Erice, Italy, Aug 2015
- **Contagion 2015**, Tempe, Arizona, Sep 2015
- **Infant Burden of Pertussis**, Atlanta, GA, Feb 2016
- **MIDAS network meeting**, Washington DC, May 2016
- **Society for Epidemiologic Research**, Miami, FL, Jun 2016
- **Multi-Strain Infectious Disease Systems**, Utrecht, Netherlands, Sep 2016
- **Public Health and Modelling**, Toronto, Canada, Oct 2016
- **Conference Mathematical & Computational Epidemiology**, Erice, Italy, Aug 2018
- **Vaccines & Vaccination**, Annecy, France, Nov 2016

Professional Service

- **Disease Ecology / Eco-epidemiology**, Mathematical Biology Institute, Columbus, OH, Apr 2018
- **Symposia on Host Responses to Respiratory Pathogens**, University of Georgia, Apr 2018
- **Options X for the control of influenza**, Singapore, August 2019
- **Respiratory Division Symposium: overcoming waning pertussis immunity**, National Institutes of Health, September 2019
- **Plenary: Multi-Pathogen Infectious Disease Systems**, University of Utrecht, October 2019
- **Distinguished Lecture: Harnessing Dynamical Footprints to Detect Disease Emergence**, Canadian Center for Disease Modeling, December 2020
- **Charter Lecture: Dynamical Models for Disease Emergence and Mitigation**, University of Georgia, April 2021

Contributed Talks

- British Ecological Society, Lancaster, Dec 1993
- British Ecological Society, Birmingham, Dec 1996
- International Ecology Congress, Florence, July 1998
- Ecological Society of America, Spokane, Aug 1999
- British Ecological Society, Leeds, Jan 1999
- British Ecological Society, Sheffield, Dec 2000
- Ecological Society of America, Tucson, Aug 2002
- Ecological Society of America, Savannah, Aug 2003
- Ecological Society of America, Montreal, Aug 2005
- Ecological Society of America, Pittsburgh, Aug 2010
- Ecological Society of America, Portland, Aug 2017

Departmental Seminars

- Department of Biology, University of Leiden, Netherlands; Feb 1993
- Department of Biology, University of Tartu, Estonia; Dec 1993
- Institute of Physics, UNAM, Mexico City; Jul 1996
- Department of Biology, University of Stirling, Scotland; Nov 1996
- School of Arts & Sciences, University of Tokyo, Japan; Jan 1997
- School of Biological Sciences, University of Liverpool; Apr 1997

Professional Service

- Institute of Ecology, UNAM Mexico City; May 1998
- Centre for Nonlinear Dynamics, University College, London; Jun 1998
- Department of Biology, Imperial College, Silwood Park; Nov 1999
- Department of Biology, University of Stirling, Scotland; Nov 1999
- Centre for Complexity, UNAM, Mexico City; Aug 2000
- Department of Biology, Imperial College, Silwood Park; Nov 2001
- Division of Environmental and Evolutionary Biology, University of Glasgow; Nov 2001
- National Immunisation Program, CDC, Atlanta; Mar 2002
- Department of Environmental Sciences, Emory University, Atlanta; Sept 2002
- Department of Ecology & Evolutionary Biology, University of Michigan; Oct 2002
- Ecology and Evolutionary Biology Department, University of Tennessee; Mar 2003
- Department of Genetics, University of Georgia; Sept 2003
- Department of Ecology and Evolutionary Biology, Harvard University; Sept 2003
- Department of Ecology & Evolution, Chicago University; Jan 2004
- Department of Ecology & Evolution, Georgia Institute of Technology; Sept 2004
- Department of Plant Pathology, University of Georgia, Nov 2004
- National Immunisation Program, CDC, Atlanta; Jan 2005
- Department of Ecology & Evolution, Princeton University; Mar 2005
- Department of Statistics, University of Georgia, Apr 2005
- Department of Biology, Emory University; Jan 2007
- Department of Mathematics, Georgia Institute of Technology; Feb 2007
- School of Public Health, Yale University; Apr 2007
- Department of Infectious Diseases, University of Georgia, Feb 2008

Professional Service

- o Department of Biology, University of North Carolina, April 2008
- o Department of Population Health, University of Georgia, Nov 2008
- o Institute of Complex Systems, Ecole Normal Superior, Paris, Jan 2009
- o Department of Ecology and Evolutionary Biology, U Michigan, Feb 2009
- o Department of Ecology and Evolution, University of Chicago, Feb 2009
- o Department of Epidemiology, Harvard University, Feb 2010
- o Program in Interdisciplinary Biological and Biomedical Sciences, UNM Apr 2010
- o Department of Statistics, University of Michigan, Oct 2010
- o Laboratory of Respiratory Pathogens, FDA, Dec 2011
- o Institute Pasteur, Paris, Apr 2012
- o Center for Infectious Disease Dynamics, Penn State, Sept 2012
- o Applied & Industrial Mathematics, UMich, Feb 2012
- o Department of Epidemiology, UMich, Feb 2012
- o Kellogg Biological Station, Michigan State, Sep 2013
- o Department of Biology, U Florida, Mar 2014
- o Department of Mathematics, U Georgia, Mar 2016
- o Department of Biology, Notre Dame, Apr 2018
- o Infectious Diseases Institute, Ohio State University, Apr 2018
- o Department of Epidemiology, Emory, Feb 2019
- o School of Public Health, Yale University, Jan 2020
- o COVID-19 Modeling Consortium, UT Austin, Apr 2021

Service to University of Georgia

Odum School of Ecology

Promotion & Tenure Unit Head (2020-present), Strategic Planning Committee (co-Chair, 2018 - 2020), Promotion & Tenure Committee (2017 - 2020), IDEAS Steering Committee (2015 - present), Center for the Ecology of Infectious Diseases Steering Committee (2016 - 2019), Seminar Committee Chair (2016 - 2018), Executive Committee (2017-2019), Graduate Affairs (2007- 2009), Seminar (2004-2005), Computing Facilities (Chair, 2003-2004), Executive Committee (2007-2009), Space (2004-2006), Ecosystem ecology search committee (2003), Institute of Ecology director search committee (2005), UGA Faculty of Infectious Diseases search committee (2007, 2008), Population ecologist (Chair: 2004, 2005, 2007), Evolutionary Ecologist (Chair 2007)

Professional Service

Department of Infectious Diseases

Executive Committee (2015 - present), Postdoctoral Affairs Committee (2020-present), Awards Committee (2015 - present), 5-year Strategic Planning Committee (2016 - 2017), Fundraising Committee (2016)

Department of Genetics

Theoretical Evolutionary Genetics search committee (2005)

University Service

- o Program Review Committee, Odum School of Ecology (2020)
- o Special Professorships Committee (2020-present)
- o Innovation District Faculty Advisory Council (2020-present)
- o Program Review Committee, Center for Tropical & Emerging Global Diseases (2019)
- o Tenure & Promotions Appeals Committee (2016 - 2019)
- o GA Research Computing Resource Center (GACRC) Advisory Committee (2016 - present)
- o U.S. Student Fulbright Campus Committee (2019)
- o UGA Task Force on Graduate Education (2006-2007)
- o Executive Committee Member and co-Founder: UGA Ecology of Infectious Disease Research Initiative
- o UGA Task Force on Graduate Education (2006-2007)
- o Executive Council, UGA Faculty of Infectious Diseases (2007 - 2009)
- o President's Faculty Advisory Committee (2008 - 2011)
- o UGA Research Advisory Committee (2008 - 2009)

Service to University of Michigan

Ecology & Evolutionary Biology

Graduate affairs committee (2010-2012), Executive committee (2012-2014), Networks search committee (2011), 2 Tenure-Promotion committees (2011, 2013), 9 Decision making bodies (2010, 2011, 2012, 2014, 2015), Prelims committee (2014-2015), Promotion & Merit Committee (2014-2015)

Center for the Study of Complex Systems

Tenure-promotion (2011, 2012), Search committee (2012, 2013, 2014)

Department of Epidemiology

Virology search committee (2012, 2014)

University Service

Interdisciplinary Studies Committee of the Individual Major Program (2014-2015)