

# Pejman Rohani

## *Curriculum Vitae*

### EMPLOYMENT RECORD

---

CURRENT, FROM SEPT 2009

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

AUG 2008 – SEPT 2009

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

AUG 2005 – AUG 2008

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

AUG 2001 – AUG 2005

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

OCT 1999 – AUG 2001

Royal Society University Research Fellow  
Department of Zoology  
*University of Cambridge*

OCT 1996 – OCT 1999

Natural Environment Research Council Research  
Fellow  
Department of Zoology  
*University of Cambridge*

OCT 1995 – OCT 1996

Postdoctoral Research Fellow  
Department of Mathematics  
*University of Utah*

JAN 1995 – OCT 1995

Higher Scientific Officer  
Sea Mammal Research Unit  
*Cambridge*

🏠 830 N. University Ave, Ann Arbor, MI 48104  
📞 +1 734 615 4757  
✉ rohani@umich.edu  
📄 <http://vserver1.cscs.lsa.umich.edu/~rohani/>

### EDUCATION

---

1995 **Doctor of Philosophy**  
BIOLOGY  
*Imperial College, University of London*

1991 **Bachelor of Science**  
MATHEMATICS  
*The University of Manchester*

### AWARDS

---

2014 **Collegiate Professorship**  
*University of Michigan*

2008 **Faculty of 1000 Biology**

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*

2000 **Research Fellow, New Hall**  
*University of Cambridge, UK*

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

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

1997 **Research Fellow, New Hall**  
*University of Cambridge, UK*

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

1995 **Research Fellow**  
*University of Utah*

## GRANT FUNDING

---

### In Progress

AUG 2014 – AUG 2019  
X-raying high-dimensional infectious disease data using statistical inference  
National Institutes of Health, \$12.5m; UM subcontract: \$1.6m

*Robani, Ionides, Koopman, King, Pascual*

AUG 2014 – AUG 2019  
Forecasting tipping points in emerging and re-emerging infectious diseases  
National Institutes of Health, \$2.75m; UM subcontract: \$1.2mK

*Drake, Robani, Park, Ferrari, Eburneau*

AUG 2014 – AUG 2019  
Environmental Infection Transmission System Analysis  
National Institutes of Health, \$2.75m

*Eisenberg, Eisenberg, Ionides, Koopman, Robani, Meza*

MAY 2012 – MAY 2017  
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 and *Streptococcal pneumoniae* Carriage  
Pfizer pharmaceuticals, \$100K

*Foxman, Aiello, Dawid, Robani*

### Completed

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*

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

*Drake, Robani*

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

*Robani*

## GRANT FUNDING, C<sup>2</sup>TD

---

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*

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*

## PUBLICATIONS

---

### Books

- 2008 Keeling, M.J. & **Rohani, P.** "Modeling Infectious Diseases". Princeton University Press, Princeton
- IN PREP Altizer, SA & **Rohani, P.** "A Primer in Infectious Disease Ecology". Princeton University Press, Princeton

### 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. 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
- 2009 **Rohani, P.** & Drake, J.M. Evaluating the Measles Strategic Planning Tool. Report to the Quantitative Immunization and Vaccines Related Research advisory committee, World Health Organization

### Papers

106. Riolo, M.A. & **Rohani, P.** (2014) Combating Pertussis Resurgence: One Booster Vaccination Schedule Doesn't Fit All. *Proceedings of the National Academy of Sciences USA*. (in press)
105. Riolo, M.A., **Rohani, P.** & Hunter, M.D. (2014) Local variation in plant quality influences large-scale population dynamics. *Oikos*.
104. Roche, B., Drake, J.M., Brown, J., Stallknecht, D.E., Bedford, T. & **Rohani, P.** (2014) Adaptive evolution and environmental durability jointly structure phylodynamic 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 Applied Mathematics*. (in press).
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. *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 Computational Biology* **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., Caceres, 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: Tibayranc), Wiley Press.
51. Broutin, H., Mantilla-Beniers N.B. & **Rohani, P.** (2007) Ecology of infectious disease dynamics. In: *Encyclopedia of Infectious Diseases* (Ed: Tibayranc), 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. Guegan, 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* **73** 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.**, 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.
1. **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.

## REFEREES

---

PROFESSOR BT GRENFELL, FRS

🏠 Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ 08544-1003, USA  
📞 +1 609 258-0308  
✉ grenfell@princeton.edu

PROFESSOR AP DOBSON

🏠 Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ 08544-1003, USA  
📞 +1 609 258-2913  
✉ andy@eno.princeton.edu

PROFESSOR MD HUNTER

🏠 Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor MI 48104, USA  
📞 +1 734 647 3691  
✉ mdhunter@umich.edu

PROFESSOR LA REAL

🏠 Department of Biology, Emory University, Atlanta GA 30322, USA  
📞 +1 404 727 4099  
✉ lreal@emory.edu

PROFESSOR FR ADLER

🏠 Department of Mathematics, University of Utah, Salt Lake City, UT 84112, USA  
📞 +1 801 581 6848  
✉ adler@math.utah.edu

PROFESSOR LORD RM MAY, FRS

🏠 Department of Zoology, University of Oxford, Oxford, South Parks Road, Oxford OX1 3PS, UK  
📞 +44 1865 271 276  
✉ robert.may@zoology.oxford.ac.uk



## MENTORING

---

### Graduate Students

#### UNIVERSITY OF MICHIGAN

2010 – 2015 Micaela Martinez-Bakker (PhD, Ecology & Evolutionary Biology)

2012 – 2017 Kevin Bakker (PhD, Ecology & Evolutionary Biology)

2010 – 2015 Elizabeth Levin (PhD, Epidemiology)

2011 – 2014 Maria Riolo (PhD, Applied & Interdisciplinary Mathematics)

#### UNIVERSITY OF GEORGIA

2006 – 2012 Jamie Winternitz (PhD, Ecology)

2006 – 2011 Daniel Streicker (PhD, Ecology)

2005 – 2007 Hanh Nguyen (MSc, Ecology)

2003 – 2006 Matthew Bonds (PhD, Ecology)

#### UNIVERSITY OF CAMBRIDGE

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

1998 – 2001 Tom Reader (PhD, Zoology)

### Postdocs

#### UNIVERSITY OF MICHIGAN

2013 – 2015 Felicia Magpantay

2013 – 2015 Matthieu Domenech de Celles

2012 – 2013 Doug Jackson

2009 – 2013 Sourya Shrestha

2010 – 2013 Vicki Brown

2011 – 2012 Jijun Zhao

2010 – 2013 Julie Blackwood

2012 – 2014 Daniel Streicker

2010 – 2011 Eli Goldwyn

2008 – 2010 Benjamin Roche

2009 – 2010 Xue Zhong

#### UNIVERSITY OF GEORGIA

2007 – 2009 Jerome Niogret

2007 – 2009 Romulus Breban

2005 – 2008 Steven White

2004 – 2008 Dan Vasco

2005 – 2006 Marc Choisy

2001 – 2007 Helen Wearing

2003 – 2005 Yunxin Huang

## MENTORING, CONTINUED

---

### 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).

### 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

## TEACHING

---

### UNIVERSITY OF MICHIGAN

EEB 315 **Ecology & Evolution of Infectious Diseases** (2010, 2011, 2013, 2014)

CMPLXSYS 430 **Modeling Infectious Diseases** (2010, 2011, 2013, 2014)

### UNIVERSITY OF GEORGIA

ECOL 8325 **Modeling Ecological Populations** (2003 – 2007)

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)

### EXTRAMURAL

Summer School in Statistics & Modeling in Infectious Diseases, University of Washington **Module 2:**

**Mathematical Models of Infectious Diseases** (2009 – PRESENT)

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

---

### INVITED CONFERENCE PRESENTATIONS

- **International Conference on Mathematical Biology**, Alcalá, 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
- **Journées 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 pertussis**, Transmission 2008, Warwick, UK July 2008
- **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

## CONTINUED

---

- **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
- **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

### CONTRIBUTED TALKS

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

## PROFESSIONAL SERVICE

---

### 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
- 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
- Department of Biology, University of North Carolina, April 2008
- Department of Avian Health, University of Georgia, Nov 2008
- Institute of Complex Systems, Ecole Normal Superior, Paris, Jan 2009
- Department of Ecology and Evolutionary Biology, U Michigan, Feb 2009
- Department of Ecology and Evolution, University of Chicago, Feb 2009
- Department of Epidemiology, Harvard University, Feb 2010
- Program in Interdisciplinary Biological and Biomedical Sciences, UNM Apr 2010
- Department of Statistics, University of Michigan, Oct 2010
- Laboratory of Respiratory Pathogens, FDA, Dec 2011
- Institute Pasteur, Paris, Apr 2012
- Center for Infectious Disease Dynamics, Penn State, Sept 2012
- Applied & Industrial Mathematics, UMich, Feb 2012
- Department of Epidemiology, UMich, Feb 2012
- Kellogg Biological Station, Michigan State, Sep 2013
- Department of Biology, U Florida, Mar 2014

## PROFESSIONAL SERVICE

---

### EDITORIAL BOARDS

- American Naturalist (2007-present)
- Proceedings of the Royal Society of London - Biological Sciences (2012-present)

### GUEST ACADEMIC EDITOR

- PLoS Biology, PLoS Medicine, PLoS Computational Biology, PNAS

### AD HOC PEER-REVIEWER

American Journal of Epidemiology, American Naturalist, Biology Letters, British Medical Journal, Bulletin of Mathematical Biology, Ecology, Ecology Letters, Emerging Infectious Diseases, Epidemiology and Infection, Eusorsurveillance, Journal of Animal Ecology, Journal of Biosciences, Journal of Mathematical Biology, Journal of Theoretical Biology, Lancet, Mathematical Biosciences, Nature, Nature Communications, Nature Medicine, Nature Reviews Microbiology, Oikos, Physica D, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society of London: Biological Sciences, Philosophical Transactions of the Royal Society of London: Biological Sciences, PLoS Biology, PLoS Medicine, PLoS Pathogens, PLoS ONE, PLoS NTGD, Science, Theoretical Population Biology, Trends in Ecology and Evolution, Trends in Microbiology, Trends in Parasitology, Wildlife Biology.

### EXTERNAL BOOK REVIEWER

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

### GRANT REVIEW PANEL MEMBER

National Science Foundation (2007, 2009, 2010, 2012), National Institutes of Health (MIDAS project grants; 2008, Epidemiology 2011, MABS 2014)

### AD HOC PROPOSAL REVIEWER

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

- Polymath, UK (2011 - Present)
- 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)

### PANEL MEMBER

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

### CONFERENCES/SYMPORIA 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)
- Ecology & Evolution of Infectious Diseases Conference, Ann Arbor, MI 2012 (Rohani, King)

### 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), 6 Decision making bodies (2010, 2011, 2012, 2014), Prelims committee (2014), Promotion & Merit Committee (2014-2017)

#### **Center for the Study of Complex Systems**

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

#### **Epidemiology**

Virology search committee (2012, 2014)

#### **University Service**

Interdisciplinary Studies Committee of the Individual Major Program (2014-2017)

### SERVICE TO UNIVERSITY OF GEORGIA

#### **Odum School of Ecology**

Graduate Affairs (2007-2009), Seminar (2004-2005), Computing Facilities (Chair, 2003-2004), Executive (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)

#### **Department of Genetics**

Theoretical Evolutionary Genetics search committee (2005)

#### **University Service**

- Executive Committee Member and co-Founder: UGA Ecology of Infectious Disease Research Initiative
- Member UGA Task Force on Graduate Education (2006-2007)
- Executive Council, UGA Faculty of Infectious Diseases (2007 - 2009)
- Member President's Faculty Advisory Committee (2008 - 2011)
- Member UGA Research Advisory Committee (2008 - 2009)