

YALE FORMAT CV

Name: Alison P. Galvani, PhD

Term: Assistant Professor in Public Health

School Assignment: School of Medicine and Graduate School

Born: 10/7/1976, San Francisco

Education:

BA University of Oxford 1998

PhD University of Oxford 2002

Career:

Miller Research Fellowship, University of California, Berkeley

2002-2004

Assistant Professorship, Yale University School of Medicine

2004-present

Professional Honors or Recognition:

A)

2006 John Simon Guggenheim Memorial Foundation Award (youngest recipient 2006)

2006 Fellowship from Institute for Advanced Studies, Berlin

2005 ASN Young Investigator Prize

2002-2004 Miller Research Fellowship, University of California, Berkeley

1998-2002 Domus Senior Scholarship at Merton College, Oxford

1998-2001 Overseas Research Studentship Award

1995-1998 New College Scholarship for Academic Excellence

B) 2006 MacMillan Award

Grant History for last 12 years:

Alison Galvani				
Source/Role	Grant Number/ % Effort	Project Title	Dates	Annual Direct Costs
James McDonnell Foundation P.I.	220020114 10%	Developing and Applying Game Theoretic Vaccination Models with Psychological Data.	9/1/06 – 8/31/12	\$83,761
Notsew Orm Sands Foundation P.I.	0%	Causal Relationship between the HIV and Schistosomiasis in Zimbabwe.	6/1/06 – 6/30/11	\$65,000
NSF P.I.	17%	Collaborative Research: Modeling and Behavioral Evaluation of Social	9/1/06 – 8/31/09	\$204,000

		Dynamics in Prevention Decisions.		
MacMillan Award P.I.	0%	N/A	6/1/06 – 6/30/08	\$5,000
Merck Research Laboratories PI	0%	Vaccination and evolutionary dynamics of human papillomavirus	8/1/06- 11/1/06	\$23,154
NIH PI	30%	Optimal influenza vaccination and population adherence	09/01/07 - 08/31/10	\$125,000
NIH Co-PI	10%	Evolutionary genetics of tsetse and its symbionts	09/01/07 - 08/31/12	\$487,070
Completed:				
Miller Institute Grant PI	N/A	Epidemiology and evolution of infectious diseases	07/01/02 - 07/01/04	\$45,000

Lectures, Courses:

Developed syllabus for ‘Modeling the epidemiology and evolution of infectious diseases’.

Instructor for undergrad Independent Studies Course through Department of Ecology and Evolution.

Organizing NSF-funded DIMACS meeting ‘Addressing social conflict in public health and environmental policy modeling’ at Rutgers University, To be held: October 15-17, 2007.

Organized NSF-funded DIMACS meeting ‘Evolutionary Considerations in Vaccine Use’ at Rutgers University, June 27-30, 2005.

Lectured in ‘Modeling Infectious Diseases’ course at Department of Epidemiology & Public Health, Yale University School of Medicine. 2004.

Primary instructor of graduate course ‘Evolution of infectious diseases’, UC Berkeley. 2003.

Invited lectures in ‘Epidemiology and Control of Infectious Diseases’ course at School of Public Health, UC Berkeley. 2003 & 2004.

Chaired symposium section at the ‘6th International Meeting on Molecular Epidemiology and Evolutionary Genetics in Infectious Diseases’, Pasteur Institute, Paris. July 25, 2002

Invited talks:

Snowbird, American Mathematical Society. July 20, 2005

Award talk. Fairbanks, Alaska. Evolution meetings. June 13, 2005

SAMSI, Research Triangle Park, Jan 31, 2005

University of Maryland, College Park, Biology Department. Jan 29, 2004.

University of Wisconsin, Madison, Department of Zoology. Dec 11, 2003
University of British Columbia, Department of Zoology. Dec 2, 2003
DIMACS meeting on Genetics and Evolution of Pathogens, Rutgers University. Nov 24, 2003
University College London, Department of Biology. May 15, 2003
University of McMaster, Department of Mathematics. March 30th, 2001.
Workshop on Evolutionary Epidemiology of Strain Structure in Pathogen Populations,
University of Warwick. Jan 15th-17th, 2001.
University of Toronto, Department of Zoology. March 21st, 2001.
W.D. Hamilton Symposium, University of California at Berkeley. Oct 19th-21st, 2000.
Harvard School of Public Health. Oct 26th, 2000.

Teaching: EMD 525ab Seminar in epidemiology of microbial diseases

EMD 565a Modeling the epidemiology and evolution of infectious diseases

EMD 563 Lab and Field Studies in Infectious Disease

EEB 475 Independent studies of Yale undergraduates

Mentor to CIRA fellow Jan Medlock.

Multidisciplinary Parasitology Training Program (PI: Diane McMahon-Pratt, Adjunct Faculty:
Galvani). Pending

Fellowship Training in Vector-Borne, Infectious Diseases (PI: Durland Fish)

Professional Service:

Editorial Board member of *PLoS ONE*

Academic editor for *PLoS Medicine*

Consulting the Royal Society regarding initiation of a new journal 'Quantitative Infectious
Disease Dynamics'

Organizer of NSF-funded DIMACS meeting 'Addressing social conflict in public health and
environmental policy modeling' at Rutgers University, To be held: October 15-17, 2007.

Bibliography:

44. **Galvani, A.P.**, Reluga, T.C. & Chapman, G.B. (2007) Long-standing influenza vaccination policy is in accord with individual self-interest but not with the utilitarian optimum. *Proceedings of the National Academy of Sciences, USA*. 104, 5692-5697.
43. Basu, S., Andrews, J., Poolman, E.M., Gandhi, N.R., Shah, N.S., Moll, A., **Galvani, A.P.** & Friedland, G.H. (2007) The epidemic-level impact of preventing nosocomial transmission of extensively drug-resistant tuberculosis in rural South African district hospitals. *The Lancet*. In press.
42. Poolman, E.M, Elbasha, E. & **Galvani, A.P.** (2007) Vaccination and the evolutionary

ecology of Human Papillomavirus. *Vaccine*. In press.

41. Basu, S. & **Galvani, A.P.** (2007) Multiparameter calibration of a natural history model of cervical cancer. *American Journal Epidemiology*. In press.
40. Basu, S. & **Galvani, A.P.** (2007) Extensively drug-resistant tuberculosis in South Africa. *The Lancet*. In press.
39. Codeco, C., Luz, P.M., Coelho, F. **Galvani, A.P.** & Struchiner, C. (2007) Vaccinating in disease-free regions: a vaccine model with application to yellow fever. *Journal of the Royal Society Interface*. In press.
38. Reluga, T.C., Walton, D.B., Meza, R. & **Galvani, A.P.** (2007) Reservoir Interactions and Disease Emergence. *Theoretical Population Biology*. In press.
37. Reluga, T.C., Medlock, J., Poolman, E.M. & **Galvani, A.P.** (2007) Optimal timing of disease transmission in an age-structured population. *Bulletin of Mathematical Biology*. In press.
36. Poolman, E.M & **Galvani, A.P.** (2007) Evaluating candidate agents of selective pressure for cystic fibrosis. *Journal of the Royal Society Interface*. 4, 91-98.
35. **Galvani, A.P.**, Medlock, J. & Chapman, G.B. (2006) The ethics of influenza vaccination. *Science*. 313: 758-760.
34. Poolman, E.M, & **Galvani, A.P.**, (2006) Evaluating candidate agents of selective pressure for cystic fibrosis. *Journal of the Royal Society Interface*. In press.
33. Poolman, E.M, & **Galvani, A.P.** (2006) Modeling targeted ivermectin treatment for controlling river blindness. *American Journal of Tropical Medicine and Hygiene*. 75: 921-927.
32. Reluga, T.C., Medlock, J. & **Galvani, A.P.** (2006) A model of spatial epidemic spread when individuals move within overlapping home ranges. *Bulletin of Mathematical Biology*. 68: 401-416.
31. Rainer et al. (Galvani, A.P. 4th of 15 authors) (2006) Discriminating features of SARS from other severe viral respiratory tract infections. *European Journal of Clinical Microbiology and Infectious Diseases*. In press.
30. Reluga, T.C., Bauch, C. & **Galvani, A.P.** (2006) Evolving public perceptions and stability in vaccine uptake. *Mathematical Biosciences*. 204: 185-198.
29. **Galvani, A.P.** & May, R.M. (2005) Dimensions of superspreading. *Nature*. 438: 293-295.
28. **Galvani, A.P.** (2005) The role of mutation accumulation in HIV progression. *Proceedings of the Royal Society London*. 272: 1851-1858.
27. Novembre, J.P., **Galvani, A.P.** & Slatkin, M. (2005) The geographic spread of the CCR5- Δ 32 HIV-resistance allele. *PLOS Biology*. 3, e339.

Commentary on this article by Gaggiotti (2006) *Heredity*

26. Elbasha, E. & **Galvani, A.P.** (2005) Vaccinating against multiple HPV types. *Mathematical Biosciences*. 197: 88-117. (Journal's most downloaded article in 2005
http://top25.sciencedirect.com/?journal_id=00255564)
 25. Bauch, C.T., Lloyd-Smith, J.O, Coffee, M & **Galvani, A.P.** (2005) Dynamically modelling SARS and respiratory EIDs: past, present and future. *Epidemiology*. 16: 791-801.
 24. Charleston, M. & **Galvani, A.P.** (2005) A cophylogenetic perspective of host-pathogen evolution. In *Disease evolution: Models, concepts and data analyses* (eds. Z. Feng, U. Dieckmann & S. Levin) American Mathematical Society. In press.
 23. **Galvani, A.P.** & Novembre, J.P. (2005) The evolutionary history of the *CCR5-Δ32* HIV-resistance mutation. *Microbes and Infection*. 7: 301-308.
 22. **Galvani, A.P.** (2005) Age-dependent epidemiological patterns and strain diversity in helminth parasites. *Journal of Parasitology*. 91: 24-30.
 21. Porco, T.C., Lloyd-Smith, J.O., Gross, K.L. & **Galvani, A.P.** (2005) The effect of treatment on pathogen virulence. *Journal of Theoretical Biology*. 233: 91-102
 20. **Galvani, A.P.** (2004) Emerging infections: What have we learned from SARS? *Emerging Infectious Diseases*. 10: 1351-1352.
 19. **Galvani, A.P.** & Slatkin, M. (2004) Intense selection in an age-structured population. *Proceedings of the Royal Society London, Series B* 271: 171-176.
 18. **Galvani, A.P.** & Slatkin, M. (2003) Evaluating plague and smallpox as historical selective pressures for the *CCR5-Δ32* HIV-resistance allele. *Proceedings of the National Academy of Sciences, USA* 100: 15276-15279.
- Commentary on this article by Stumpf & Wilkinson-Herbots (2004) *Trends Ecology & Evolution*
17. Ferguson, N.M., **Galvani, A.P.** & Bush, R.M. (2003) Ecological and immunological determinants of influenza evolution. *Nature* 422: 428-433.
 16. **Galvani, A.P.** (2003) Epidemiology meets evolutionary ecology. *Trends in Ecology & Evolution* 18:132-139. (Cover article)
 15. **Galvani, A.P.**, Lei, X. & Jewell, N.P. (2003) Severe acute respiratory syndrome: temporal stability and geographic variation in death rates and doubling times. *Emerging Infectious Diseases* 9: 991-994.
 14. Lloyd-Smith, J.O., **Galvani, A.P.** & Getz, W. (2003) Curtailing SARS transmission within a community and its hospital. *Proceedings of the Royal Society London, Series B* 270: 1979-1989 (Cover article)
 13. Bauch, C.T., **Galvani, A.P.** & Earn, D.J.D. (2003) Smallpox vaccination: insights from game theory. *Proceedings of the National Academy of Sciences, USA* 100: 10564-10567.

12. **Galvani, A.P.** (2003) Immunity, antigenic diversity and the aggregation of helminth parasites. *Journal of Parasitology* 89: 232-241.
11. Ferguson, N.M. & **Galvani, A.P.** (2003) The impact of antigenic variation on pathogen population structure, fitness and dynamics. p. 403-433. In *Antigenic Variation* (eds. A. Carig & A. Scherf) Harcourt Publishers.
10. **Galvani, A.P.**, Coleman, R.M. & Ferguson, N.M. (2003) The evolution of sex in parasite populations. *Proceedings of the Royal Society London, Series B* 270: 19-28.
9. Bauch, C.T. & **Galvani, A.P.** (2003) Using network models to approximate spatial point-process models. *Mathematical Biosciences* 184: 101-114.
8. **Galvani, A.P.** (2003) Immunology and epidemiology of infectious disease. *The Quarterly Review of Biology* 78: 130-131.
7. **Galvani, A.P.**, Coleman, R.M. & Ferguson, N.M. (2001) Antigenic diversity and the selective value of sex in parasites. *Special issue in tribute to W.D. Hamilton in Annales Zoologici Fennici* 38: 305-314.
6. Gupta, S. & **Galvani, A.P.** (1999) The effects of host heterogeneity on pathogen population structure. *Philosophical Transactions of the Royal Society* 354: 711-719.
5. **Galvani, A.P.** & Gupta, S. (1998) The effects of mating probability on the population genetics of nematodes. *Journal of Helminthology* 72: 295-300.
4. **Galvani, A.P.** & Johnstone, R. (1998) Sperm allocation in an uncertain world. *Behavioural Ecology and Sociobiology* 44: 161-168.
3. **Galvani, A.P.** & Coleman, R.M. (1998) Do parental convict cichlids of different sizes value the same brood number equally? *Animal Behaviour* 56: 541-546.
2. Coleman R.M. & **Galvani, A.P.** (1998) Egg size determines offspring size in Neotropical cichlid fishes. *Copeia* 1998: 209-213.
1. **Galvani, A.P.** & Coleman, R.M. (1996) Parental size and perceived brood value: Are all eggs created equal? *Proceedings of the International Congress on the Biology of Fishes* 1996: 67-72.

Postdoctoral fellows: Dr. Jan Medlock, Dr. Eric Poolman, Dr. Timothy Reluga (now tenure-track faculty at Penn State), Dr. Eunha Shim

Ph.D. students: Dr. Paula Luz, Sanjay Basu, both of whom passed their qualifying exam with Distinction

MPH students: David Thomas (who received Dean's Prize for best thesis), Arthi Chandran

Undergraduate thesis advisor to Beth Kochin (who won the William R. Belknap Prize for her thesis), Evan Orenstein

Collaborative research

2003-present Merck Research Laboratories. HPV vaccination.

2005-present Gates Grant (PI: Anthony James, UC Irvine) Genetic strategies for control of dengue transmission.

My role is to model the epidemiology and evolution of dengue under different control strategies.

2004-present. Gretchen Chapman (Rutgers) Parameterizing and analyzing epidemiological game theoretic models of vaccination.